GMC

2017

Terrain/Terrain Denali
Owner's Manual



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DEP
DEALER E-PROCESS

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Introduction



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For vehicles first sold in Canada, substitute the name “General Motors of Canada Company” for GMC Motor Division wherever it appears in this manual.

This manual describes features that may or may not be on the vehicle because of optional equipment that was not purchased on the vehicle, model variants, country specifications, features/applications that may not be available in your region, or changes subsequent to the printing of this owner manual.

Refer to the purchase documentation relating to your specific vehicle to confirm the features.

Keep this manual in the vehicle for quick reference.

Canadian Vehicle Owners

A French language manual can be obtained from your dealer, at www.helminc.com, or from:

Propriétaires Canadiens

On peut obtenir un exemplaire de ce guide en français auprès du concessionnaire ou à l'adresse suivante:

Helm, Incorporated
Attention: Customer Service
47911 Halyard Drive
Plymouth, MI 48170
USA

Using this Manual

To quickly locate information about the vehicle, use the Index in the back of the manual. It is an alphabetical list of what is in the manual and the page number where it can be found.

Danger, Warning, and Caution

Warning messages found on vehicle labels and in this manual describe hazards and what to do to avoid or reduce them.

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⚠ Danger

Danger indicates a hazard with a high level of risk which will result in serious injury or death.

⚠ Warning

Warning indicates a hazard that could result in injury or death.

Caution

Caution indicates a hazard that could result in property or vehicle damage.



A circle with a slash through it is a safety symbol which means “Do Not,” “Do not do this,” or “Do not let this happen.”

Symbols

The vehicle has components and labels that use symbols instead of text. Symbols are shown along with the text describing the operation or information relating to a specific component, control, message, gauge, or indicator.

: Shown when the owner manual has additional instructions or information.

: Shown when the service manual has additional instructions or information.

: Shown when there is more information on another page — “see page.”

Vehicle Symbol Chart

Here are some additional symbols that may be found on the vehicle and what they mean. For more information on the symbol, refer to the Index.

: Airbag Readiness Light

: Air Conditioning

: Antilock Brake System (ABS)

: Brake System Warning Light

: Charging System

: Cruise Control

: Do Not Puncture

: Do Not Service

: Engine Coolant Temperature

: Exterior Lamps

: Flame/Fire Prohibited

: Fog Lamps

: Fuel Gauge

: Fuses

: Headlamp High/Low-Beam Changer

: LATCH System Child Restraints

: Malfunction Indicator Lamp

: Oil Pressure

: OnStar®

: Power

: Remote Vehicle Start

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: Safety Belt Reminders
: Steering Wheel Controls
: Tire Pressure Monitor
: Traction Control/StabiliTrak®
: Under Pressure
: Windshield Washer Fluid

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In Brief

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Vehicle Features

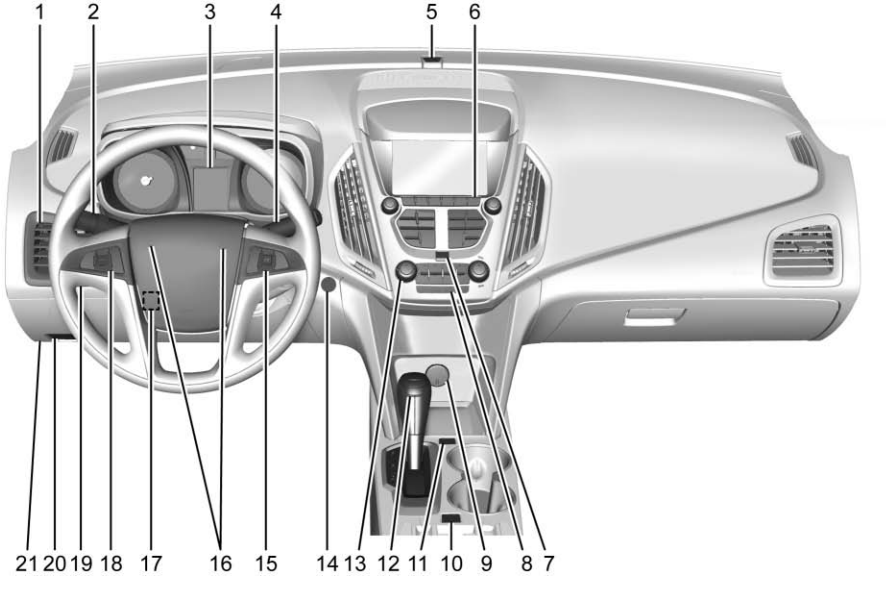
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Instrument Panel



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1. *Air Vents* ⇨ *146*.
2. Turn Signal Lever. See *Turn and Lane-Change Signals* ⇨ *136*.

 Exterior Lamp Controls ⇨ *134*.
3. *Instrument Cluster* ⇨ *102*.
4. *Windshield Wiper/Washer* ⇨ *97*.

 Rear Window Wiper/ Washer ⇨ *98*.
5. Light Sensor. See *Automatic Headlamp System* ⇨ *135*.
6. *Infotainment* ⇨ *140*.
7. *Hazard Warning Flashers* ⇨ *136*.
8. Driver Information Center (DIC) Buttons. See *Driver Information Center (DIC)* ⇨ *114*.
9. *Power Outlets* ⇨ *100*.
10. *Traction Control/Electronic Stability Control* ⇨ *176*.
11. eco Button (If Equipped). See *Fuel Economy Mode* ⇨ *173*.
12. Shift Lever. See *Automatic Transmission* ⇨ *171*.
13. *Climate Control Systems* ⇨ *141* (If Equipped).

 Automatic Climate Control System ⇨ *143* (If Equipped).
14. *Ignition Positions* ⇨ *164*.
15. *Steering Wheel Controls* ⇨ *97*.
16. *Horn* ⇨ *97*.
17. *Steering Wheel Adjustment* ⇨ *97*.
18. *Cruise Control* ⇨ *178*.

 Forward Collision Alert (FCA) Button (If Equipped). See *Forward Collision Alert (FCA) System* ⇨ *184*.

 Lane Departure Warning (LDW) Button (If Equipped). See *Lane Departure Warning (LDW)* ⇨ *188*.
19. *Instrument Panel Illumination Control* ⇨ *137*.
20. Hood Release (Out of View). See *Hood* ⇨ *204*.
21. Data Link Connector (DLC) (Out of View). See *Malfunction Indicator Lamp (Check Engine Light)* ⇨ *107*.

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Initial Drive Information

This section provides a brief overview about some of the important features that may or may not be on your specific vehicle.

For more detailed information, refer to each of the features which can be found later in this owner manual.

Remote Keyless Entry (RKE) System

The Remote Keyless Entry (RKE) transmitter may work up to 60 m (197 ft) away from the vehicle.



With Remote Start and Power Liftgate Shown

Press this button to extend the key. The key can be used for the ignition and all locks.

: Press to unlock the driver door or all doors.

For vehicles with the manual liftgate, press twice within five seconds to unlock the liftgate.

: Press to lock all doors.

Lock and unlock feedback can be personalized.

HOLD : If equipped with the power liftgate, press and hold until the liftgate begins to move.

: Press and release to initiate vehicle locator. Press and hold for at least three seconds to sound the panic alarm. Press again to cancel the panic alarm.

: Press and release and then immediately press and hold for at least four seconds to start the engine from outside the vehicle.

See *Keys* ⇨ *25* and *Remote Keyless Entry (RKE) System Operation* ⇨ *27*.

Remote Vehicle Start

If equipped, the engine can be started from outside of the vehicle.

Starting the Vehicle

1. Press and release on the RKE transmitter.
2. Immediately press and hold for at least four seconds or until the turn signal lamps flash.

Start the vehicle normally after entering.

When the vehicle starts, the parking lamps will turn on.

Remote start can be extended.

Canceling a Remote Start

To cancel a remote start, do one of the following:

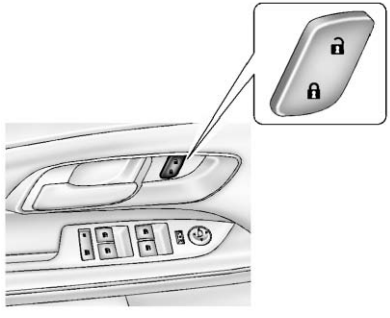
- Press and hold until the parking lamps turn off.
- Turn on the hazard warning flashers.
- Turn the vehicle on and then off.

See *Remote Vehicle Start* ⇨ *29*.

Door Locks

To lock or unlock the vehicle from the outside, press or on the Remote Keyless Entry (RKE) transmitter.

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: Press to lock the doors.

: Press to unlock the doors.

See *Door Locks* ⇨ *31*.

To manually unlock a door from inside the vehicle, pull once on the door handle to unlock it, and a second time to open it.

Liftgate

Manual Liftgate Operation

Unlock the vehicle before opening the liftgate.

To open the liftgate, press the touch pad under the liftgate handle and lift up.

Do not press the touch pad while closing the liftgate. This may cause the liftgate to be unlatched.

Power Liftgate Operation



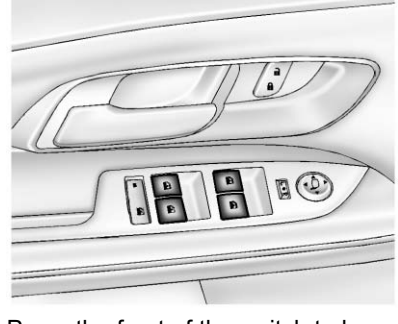
On vehicles with a power liftgate, the vehicle must be in P (Park) to use the power feature. The taillamps flash when the power liftgate moves.

Choose the power liftgate mode by turning the dial on the switch to either the 3/4 or MAX position.

Press to open or close the liftgate.

See *Liftgate* ⇨ *33*.

Windows



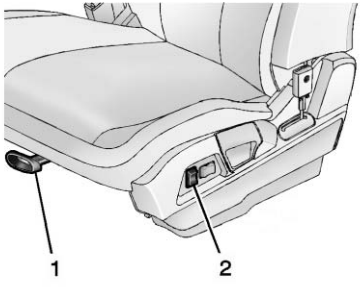
Press the front of the switch to lower the window. Pull the switch up to raise it.

See *Power Windows* ⇨ *42*.

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Seat Adjustment

Four-Way Power Seat



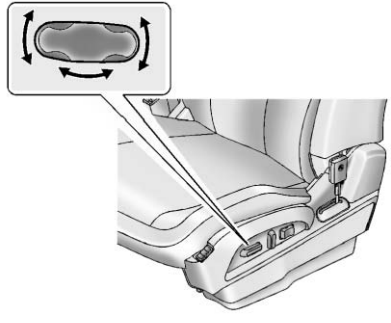
1. Seat Position Handle
2. Height Adjustment Control

To adjust the seat, if equipped:

- Move the seat forward or rearward using the handle under the front of the seat cushion (1). See *Seat Adjustment* ⇨ *47*.
- Raise or lower the entire seat by moving the control (2) up or down.

See *Power Seat Adjustment* ⇨ *47*.

Eight-Way Power Seat



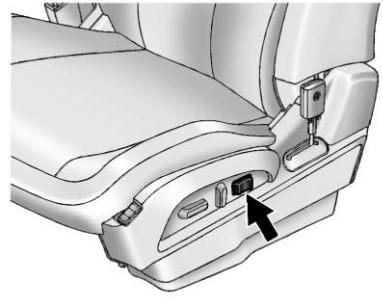
To adjust a power seat, if equipped:

- Move the seat forward or rearward by sliding the control forward or rearward.
- Raise or lower the front part of the seat cushion by moving the front of the control up or down.
- Raise or lower the entire seat by moving the rear of the control up or down.

See *Power Seat Adjustment* ⇨ *47*.

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Lumbar Adjustment



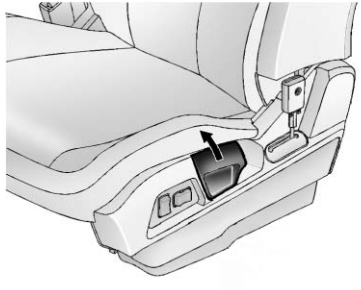
Eight-Way Power Seat Shown, Four-Way Similar

If available, press and hold the front or rear of the switch to increase or decrease lumbar support. Release the switch when the seatback reaches the desired level of lumbar support.

See *Lumbar Adjustment* ⇨ *48*.

Reclining Seatbacks

Manual Reclining Seatbacks



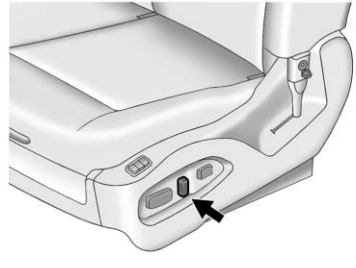
To recline a manual seatback:

1. Lift the lever.
2. Move the seatback to the desired position, and then release the lever to lock the seatback in place.
3. Push and pull on the seatback to make sure it is locked.

To return the seatback to the upright position:

1. Lift the lever fully without applying pressure to the seatback, and the seatback will return to the upright position.
2. Push and pull on the seatback to make sure it is locked.

Power Reclining Seatbacks



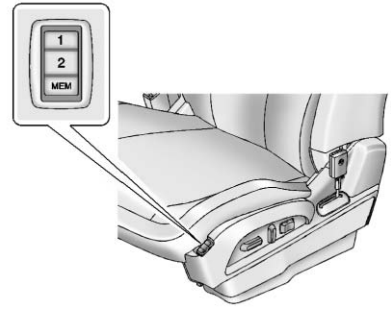
To adjust a power seatback, if available:

- Tilt the top of the control rearward to recline.
- Tilt the top of the control forward to raise.

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See *Reclining Seatbacks* ⇨ *49*.

Memory Features



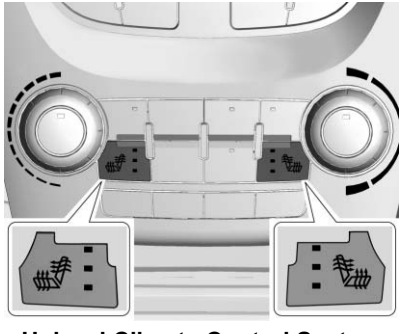
If available, the 1, 2, and MEM (Memory) buttons on the outboard side of the driver seat are used to manually store and recall the driver seat and outside mirror positions. These manually stored positions are referred to as Button Memory positions.

The vehicle will also automatically store driver seat and outside mirror positions to the current driver Remote Keyless Entry (RKE) transmitter when the ignition is

turned off. These automatically stored positions are referred to as RKE Memory positions.

See *Memory Seats* ⇨ *50* and *Vehicle Personalization* ⇨ *124*.

Heated Seats



Uplevel Climate Control System Shown, Base Similar

If available, the buttons are near the climate controls. To operate, the ignition must be in ON/RUN.

Press or to heat the driver or passenger seat cushion and seatback.

Indicator lights on the button show the temperature setting.

See *Heated Front Seats* ⇨ *52*.

Head Restraint Adjustment

Do not drive until the head restraints for all occupants are installed and adjusted properly.

To achieve a comfortable seating position, change the seatback recline angle as little as necessary while keeping the seat and the head restraint height in the proper position.

See *Head Restraints* ⇨ *46* and *Seat Adjustment* ⇨ *47*.

Safety Belts



Refer to the following sections for important information on how to use safety belts properly:

- *Safety Belts* ⇨ *54*.
- *How to Wear Safety Belts Properly* ⇨ *55*.
- *Lap-Shoulder Belt* ⇨ *56*.
- *Lower Anchors and Tethers for Children (LATCH System)* ⇨ *80*.

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Passenger Sensing System



United States



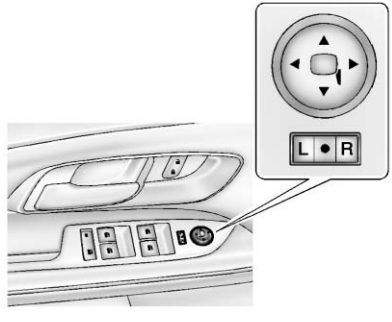
Canada and Mexico

The passenger sensing system will turn off the front outboard passenger frontal airbag under certain conditions. No other airbag is affected by the passenger sensing system. See *Passenger Sensing System* ⇨ *67*.

The passenger airbag status indicator will be visible on the overhead console when the vehicle is started. See *Passenger Airbag Status Indicator* ⇨ *106*.

Mirror Adjustment

Exterior



To adjust the mirrors:

1. Move the selector switch to L (Left) or R (Right) to choose the driver or passenger mirror.
2. Press the arrows on the control pad to move each mirror in the desired direction.
3. Return the selector switch to the middle position.

See *Power Mirrors* ⇨ *40*.

Interior

Adjustment

Adjust the rearview mirror to clearly view the area behind the vehicle.

Manual Rearview Mirror

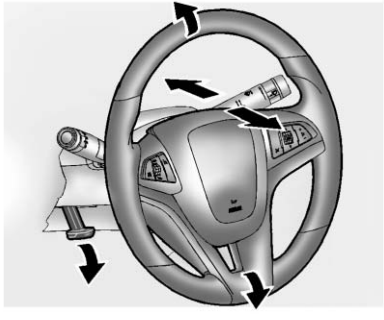
For vehicles with a manual rearview mirror, push the tab forward for daytime use and pull it rearward for nighttime use to avoid the glare of the headlamps from behind. See *Manual Rearview Mirror* ⇨ *41*.

Automatic Dimming Rearview Mirror

Vehicles with an automatic dimming inside rearview mirror automatically reduce the glare of the headlamps from behind. The dimming feature comes on when the vehicle is started. See *Automatic Dimming Rearview Mirror* ⇨ *41*.

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Steering Wheel Adjustment



To adjust the steering wheel:

1. Pull the lever down.
2. Move the steering wheel up or down.
3. Pull or push the steering wheel closer or away from you.
4. Pull the lever up to lock the steering wheel in place.

Do not adjust the steering wheel while driving.

Interior Lighting

Reading Lamps

These lamps are located on the overhead console. These lamps come on automatically when any door is opened.

For manual operation, press the button next to each lamp to turn it on or off.

Dome Lamps

There are front and rear dome lamps.

The dome lamp controls are located in the overhead console. To change the settings, press the following:

: Turns the lamp off, even when a door is open.

: The lamps come on automatically when a door is opened.

: Turns the dome lamps on.

The dome lamps can also be turned on and off by pressing the buttons next to the lamps.

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For more information on interior lighting, See *Instrument Panel Illumination Control* ⇨ *137*.

Exterior Lighting



The exterior lamp control is on the turn signal lever.

: Briefly turn to this position to turn the automatic light control off or on again.

AUTO : Turns the exterior lamps on and off automatically depending on the exterior light.

: Turns on the parking lamps including all lamps, except the headlamps.

: Turns on the headlamps, together with the parking lamps and instrument panel lights.

See:

- *Exterior Lamp Controls* ⇨ *134*.
- *Daytime Running Lamps (DRL)* ⇨ *135*.

Windshield Wiper/Washer



The windshield wiper/washer lever is located on the right side of the steering column. With the ignition in ACC/ACCESSORY or ON/RUN/START, move the windshield wiper lever to select the wiper speed.

HI : Use for fast wipes.

LO : Use for slow wipes.

INT : Move the lever up to INT for intermittent wipes, then turn the INT band up for more frequent wipes or down for less frequent wipes.



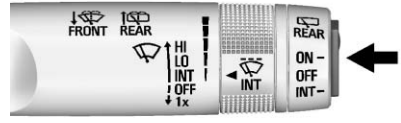
OFF : Use to turn the wipers off.

1X : For a single wipe, briefly move the wiper lever down. For several wipes, hold the wiper lever down.

FRONT : Pull the windshield wiper lever toward you to spray windshield washer fluid and activate the wipers.

Rear Window Wiper/Washer

The rear wiper controls are on the end of the windshield wiper lever.



ON : Press the upper portion of the button for continuous rear window wipes.

OFF : The rear wiper turns off when the button is returned to the middle position.

INT : Press the lower portion of the button to set a delay between wipes.

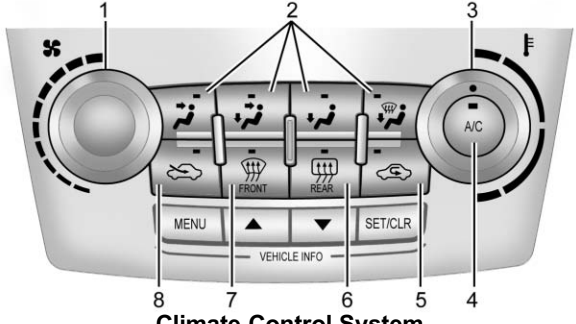
REAR : Push the windshield wiper lever forward to spray washer fluid on the rear window. The lever automatically returns to its original position when released.

See *Windshield Wiper/Washer* ⇨ *97* and *Rear Window Wiper/Washer* ⇨ *98*.

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Climate Controls

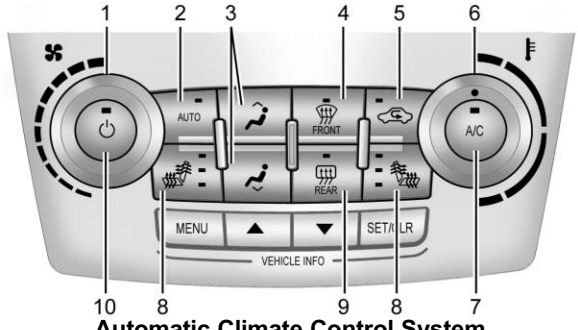
The vehicle's heating, cooling, defrosting, and ventilation can be controlled with these systems.



Climate Control System

1. Fan Control
2. Air Delivery Mode Controls
3. Temperature Control
4. A/C (Air Conditioning)
5. Recirculation
6. Rear Window Defogger
7. Front Defrost
8. Outside Air

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Automatic Climate Control System

1. Fan Control
2. AUTO (Automatic Operation)
3. Air Delivery Mode Controls
4. Front Defrost
5. Recirculation
6. Temperature Control
7. A/C (Air Conditioning)
8. Driver and Passenger Heated Seats (If Equipped)
9. Rear Window Defogger
10. Power

See *Climate Control Systems* ⇨ *141* (If Equipped) or *Automatic Climate Control System* ⇨ *143* (If Equipped).

Transmission

Electronic Range Select (ERS) Mode

ERS or manual mode allows for the selection of the range of gear positions. Use this mode when driving downhill or towing a trailer to limit the top gear and vehicle speed.

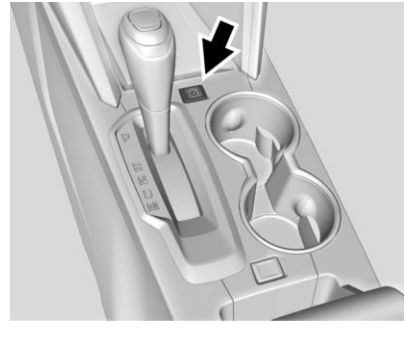
To use this feature:

1. Move the shift lever to M (Manual Mode).
2. Press the plus/minus button on the shift lever to increase or decrease the gear range available.

See *Manual Mode* ⇨ *173*.

Fuel Economy Mode

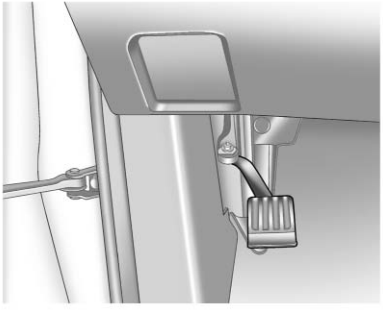
Vehicles with a 2.4L engine have a Fuel Economy Mode. When engaged, Fuel Economy Mode can improve the vehicle's fuel economy.



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Press the eco (economy) button to turn this feature on or off. The eco light in the instrument cluster will come on when engaged, and a Driver Information Center (DIC) message displays. See *Fuel Economy Mode* ⇨ *173*.

Parking Brake



To set the parking brake, hold the regular brake pedal down, then push the parking brake pedal down.

If the ignition is on, the brake system warning light will come on. See *Brake System Warning Light* ⇨ *109*.

To release the parking brake, hold the regular brake pedal down, then push down momentarily on the parking brake pedal until you feel the pedal release. Slowly pull your foot up off the parking brake pedal.

See *Parking Brake* ⇨ *175*.

Vehicle Features

Infotainment System

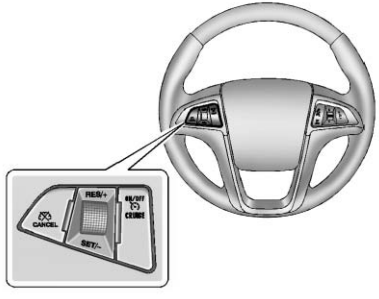
See the infotainment manual for information on the radio, audio players, phone, navigation system, and voice or speech recognition. It also includes information on settings.

Steering Wheel Controls

The infotainment system can be operated by using the steering wheel controls. See "Steering Wheel Controls" in the infotainment manual.

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Cruise Control



CRUISE : Press to turn the cruise control system on and off.

CANCEL : Press to disengage cruise control without erasing the set speed from memory.

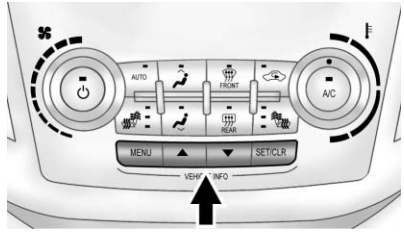
RES/+ : If there is a set speed in memory, move the thumbwheel up briefly to resume to that speed or hold upward to accelerate. If cruise control is already active, use to increase vehicle speed.

SET/− : Move the thumbwheel down briefly to set the speed and activate cruise control. If cruise control is already active, use to decrease speed.

See *Cruise Control* ⇨ *178*.

Driver Information Center (DIC)

The DIC display is in the center of the instrument cluster. It shows the status of many vehicle systems.



The DIC buttons are below the climate control system.

MENU : Press this button to get to the Trip/Fuel Menu and the Vehicle Information Menu.

▲ or ▼ : Use these buttons to scroll through the items in each menu. A small marker will move along the page as you scroll through the items. This shows where each page is in the menu.

SET/CLR : Use this button to set or clear the menu item when it is displayed.

See *Driver Information Center (DIC)* ⇨ *114*.

Forward Collision Alert (FCA) System

If equipped, FCA may help avoid or reduce the harm caused by front-end crashes. FCA provides a green indicator, , when a vehicle is detected ahead. When approaching a vehicle ahead too quickly, FCA provides a red flashing alert and rapidly beeps. This alert stays lit if you follow a vehicle much too closely.

See *Forward Collision Alert (FCA) System* ⇨ *184*.

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Lane Departure Warning (LDW)

If equipped, LDW may help avoid unintentional lane departures at speeds of 56 km/h (35 mph) or greater. LDW uses a camera sensor to detect the lane markings. The LDW light, , is green if a lane marking is detected. If the vehicle departs the lane without using a turn signal in that direction, the light will change to amber and flash. In addition, beeps will sound.

See *Lane Departure Warning (LDW)* ⇨ *188*.

Side Blind Zone Alert (SBZA)

If equipped, SBZA will detect moving vehicles in the next lane over in the vehicle's side blind zone area. When this happens, the SBZA display will light up in the corresponding outside side mirror and will flash if the turn signal is on.

See *Side Blind Zone Alert (SBZA)* ⇨ *186*.

Rear Vision Camera (RVC)

If equipped, RVC displays a view of the area behind the vehicle, on the infotainment system display, when the vehicle is shifted into R (Reverse).

See *Rear Vision Camera (RVC)* ⇨ *181*.

Rear Cross Traffic Alert (RCTA) System

If equipped, the RCTA system uses a triangle with an arrow displayed on the RVC screen to warn of traffic behind your vehicle that may cross your vehicle's path while in R (Reverse). In addition, beeps will sound.

See “Rear Cross Traffic Alert (RCTA)” under *Rear Vision Camera (RVC)* ⇨ *181*.

Parking Assist

If equipped, Rear Parking Assist (RPA) uses sensors on the rear bumper to assist with parking and avoiding objects while in R (Reverse). It operates at speeds less than 8 km/h (5 mph) and uses audible beeps to provide distance and system information.

Keep the sensors on the vehicle's rear bumper clean to ensure proper operation.

See *Parking Assist* ⇨ *183*.

Power Outlets

The accessory power outlets can be used to connect electrical equipment, such as a cell phone or MP3 player.

There are four accessory power outlets: inside the open storage area in front of the shift lever, inside the center console storage, on the rear of the center console storage, and in the rear cargo compartment.

To use the outlets, remove the cover and close when not in use.

See *Power Outlets* ⇨ *100*.

DEP DEALER E-PROCESS

Universal Remote System



If equipped, these buttons are in the overhead console. The system can replace up to three remote control transmitters used to activate devices such as garage door openers, security systems, and home automation devices.

Read the instructions completely before attempting to program the Universal Remote system. Because of the steps involved, it may be helpful to have another person available to assist with programming the Universal Remote system.

See *Universal Remote System* ⇨ *131*.

Sunroof

If equipped, the sunroof switches are on the headliner above the rearview mirror. The ignition must be in ON/RUN or ACC/ACCESSORY, or in Retained Accessory Power (RAP) to operate the sunroof. See *Ignition Positions* ⇨ *164* and *Retained Accessory Power (RAP)* ⇨ *167*.



1. Slide Switch
2. Tilt Switch

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Slide Switch

Express-Open/Express-Close : Press and release (1) to express-open the sunroof. Press and release (1) to express-close the sunroof.

Open/Close (Manual Mode) : Press and hold (1) to open the sunroof. Press and hold (1) to close. The sunshade automatically opens with the sunroof, but must be closed manually.

Tilt Switch

Vent : Press and hold (2) to vent the sunroof. Press and hold (2) to close.

Performance and Maintenance

Traction Control/ Electronic Stability Control

The traction control system limits wheel spin. The system is on when the vehicle is started.

The StabiliTrak system assists with directional control of the vehicle in difficult driving conditions. The system is on when the vehicle is started.

- To turn off traction control, press and release OFF on the console. illuminates and the appropriate DIC message displays. See *Ride Control System Messages* ⇨ *122*.
- Press and release OFF again to turn traction control back on.
- To turn off both Traction Control and StabiliTrak, press and hold OFF until OFF and illuminate and the appropriate DIC message displays. See *Ride Control System Messages* ⇨ *122*.
- Press OFF again to turn on both systems.

See *Traction Control/Electronic Stability Control* ⇨ *176*.

Tire Pressure Monitor

This vehicle may have a Tire Pressure Monitor System (TPMS).



The low tire pressure warning light alerts to a significant loss in pressure of one of the vehicle's tires. If the warning light comes on, stop as soon as possible and inflate the tires to the recommended pressure shown on the Tire and Loading Information label. See *Vehicle Load Limits* ⇨ *160*. The warning light will remain on until the tire pressure is corrected.

The low tire pressure warning light may come on in cool weather when the vehicle is first started, and then turn off as the vehicle is driven. This may be an early indicator that the tire pressures are getting low and the tires need to be inflated to the proper pressure.

The TPMS does not replace normal monthly tire maintenance. Maintain the correct tire pressures.

See *Tire Pressure Monitor System* ⇨ *243*.

Fuel



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Regular Fuel

Use only unleaded gasoline rated 87 octane or higher in your vehicle. Do not use gasoline with an octane rating lower as it may result in vehicle damage and lower fuel economy. See *Fuel* ⇨ *190*.

E85 or FlexFuel



FlexFuel Possible

Certain models are compatible with E85 fuel. See *Fuel* ⇨ *190*.

Engine Oil Life System

The engine oil life system calculates engine oil life based on vehicle use and displays the CHANGE ENGINE OIL SOON message when it is time to change the engine oil and filter. The oil life system should be reset to 100% only following an oil change.

Resetting the Oil Life System

1. Turn the ignition to ON/RUN, with the engine off.
2. Press the DIC MENU button to display the Vehicle Information menu.
3. Press either the up or down arrows to view REMAINING OIL LIFE.
4. Press the SET/CLR button until 100% is displayed.
5. Turn the key to LOCK/OFF.

Or:

1. Turn the ignition to ON/RUN with the engine off.
2. Fully press and release the accelerator pedal three times within five seconds.

See *Engine Oil Life System* ⇨ *211*.

Driving for Better Fuel Economy

Driving habits can affect fuel mileage. Here are some driving tips to get the best fuel economy possible.

- Avoid fast starts and accelerate smoothly.
- Brake gradually and avoid abrupt stops.
- Avoid idling the engine for long periods of time.
- When road and weather conditions are appropriate, use cruise control.
- Always follow posted speed limits or drive more slowly when conditions require.
- Keep vehicle tires properly inflated.
- Combine several trips into a single trip.
- Replace the vehicle's tires with the same TPC Spec number molded into the tire's sidewall near the size.
- Follow recommended scheduled maintenance.

DEALER E-PROCESS

Roadside Assistance Program

U.S.: 1-888-881-3302

TTY Users (U.S. Only): 1-888-889-2438

Canada: 1-800-268-6800

New GMC owners are automatically enrolled in the Roadside Assistance Program.

See *Roadside Assistance Program* ⇨ *298*.

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Keys, Doors, and Windows

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Keys and Locks

Keys

⚠ Warning

Leaving children in a vehicle with the ignition key is dangerous and children or others could be seriously injured or killed. They could operate the power windows or other controls or make the vehicle move. The windows will function with the keys in the ignition, and children or others could be caught in the path of a closing window. Do not leave children in a vehicle with the ignition key.



⚠ Warning

If the key is unintentionally rotated while the vehicle is running, the ignition could be moved out of the RUN position. This could be caused by heavy items hanging from the key ring, or by large or long items attached to the key ring that could be contacted by the driver or steering wheel. If the ignition moves out of the RUN position, the engine will shut off, braking and steering power assist may be

(Continued)

Warning (Continued)

impacted, and airbags may not deploy. To reduce the risk of unintentional rotation of the ignition key, do not change the way the ignition key and Remote Keyless Entry (RKE) transmitter, if equipped, are connected to the provided key rings.

The ignition key, key rings, and RKE transmitter, if equipped, are designed to work together. As a system, it reduces the risk of unintentionally moving the key out of the RUN position. If replacements or additions are required, see your dealer. Limit added items to a few essential keys or small, light items no larger than an RKE transmitter.



Interference from radio-frequency identification (RFID) tags may prevent the key from starting the vehicle. Keep RFID tags away from the key when starting the vehicle.

The key that is part of the Remote Keyless Entry (RKE) transmitter can be used for the ignition and all locks.

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Press the button on the RKE transmitter to extend the key. Press the button and the key blade to retract the key.

See your dealer if a new key is needed.

If it becomes difficult to turn the key, inspect the key blade for debris. Periodically clean with a brush or pick.

If locked out of the vehicle, see *Roadside Assistance Program* ⇨ *298*.

With an active OnStar subscription, an OnStar Advisor may remotely unlock the vehicle. See *OnStar Overview* ⇨ *308*.

Remote Keyless Entry (RKE) System

See *Radio Frequency Statement* ⇨ *304*.

If there is a decrease in the Remote Keyless Entry (RKE) operating range:

- Check the distance. The transmitter may be too far from the vehicle.
- Check the location. Other vehicles or objects may be blocking the signal.
- Check the transmitter's battery. See “Battery Replacement” later in this section.
- If the transmitter is still not working correctly, see your dealer or a qualified technician for service.

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Remote Keyless Entry (RKE) System Operation

The RKE transmitter may work up to 60 m (197 ft) away from the vehicle.

Other conditions can affect the performance of the transmitter. See *Remote Keyless Entry (RKE) System* ⇨ *27*.



With Remote Start and Power Liftgate Shown

The following may be available:

: Press to lock all doors. The turn signal indicators may flash and/or the horn may sound on the second press to indicate locking. See *Vehicle Personalization* ⇨ *124*. If a passenger door is open when is pressed, all doors lock.

Pressing may also arm the theft-deterrent system. See *Vehicle Alarm System* ⇨ *37*.

: Press to unlock the driver door or all doors. See *Vehicle Personalization* ⇨ *124*. The turn signal indicators may flash to indicate unlocking has occurred. See *Vehicle Personalization* ⇨ *124*.

Pressing may also disarm the theft-deterrent system. See *Vehicle Alarm System* ⇨ *37*.

For vehicles with the manual liftgate, press twice within five seconds to unlock the liftgate.

HOLD : If equipped with the power liftgate, press and hold until the liftgate begins to move. Press again to stop the power liftgate.

: Press and release one time to initiate vehicle locator. The exterior lamps flash and the horn chirps three times. Press and hold for at least three seconds to sound the panic alarm. The horn sounds and the turn signals flash until is pressed again or the key is placed in the ignition and turned to ON/RUN.

: If equipped, first press and release then immediately press and hold for at least four seconds to start the engine from outside the vehicle using the RKE transmitter. See *Remote Vehicle Start* ⇨ *29*.

The buttons on the keys are disabled when there is a key in the ignition.

Programming Transmitters to the Vehicle

Only RKE transmitters programmed to this vehicle will work. If a transmitter is lost or stolen, a replacement can be purchased and programmed through your dealer.

When the replacement transmitter is programmed to this vehicle, all remaining transmitters must also be reprogrammed. Any lost or stolen transmitters will no longer work once the new transmitter is programmed. See your dealer to have new transmitters programmed.

Programming with a Recognized Transmitter

To program a new key:

1. Insert the original, already programmed key in the ignition and turn to the key to the ON/RUN position.
2. Turn the key to LOCK/OFF, and remove the key.
3. Insert the new key to be programmed and turn it to the ON/RUN position within five seconds.

 The security light will turn off once the key has been programmed.
4. Repeat Steps 1–3 if additional keys are to be programmed.

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If a key is lost or damaged, see your dealer to have a new key made.

Programming without a Recognized Transmitter

Program a new key to the vehicle when a recognized key is not available. Canadian regulations require that owners see their dealer.

If there are no currently recognized keys available, follow this procedure to program the first key.

This procedure will take approximately 30 minutes to complete for the first key. The vehicle must be off and all of the keys you wish to program must be with you.

1. Insert the new vehicle key into the ignition.
2. Turn to ON/RUN. The security light will come on.
3. Wait 10 minutes until the security light turns off.
4. Turn the ignition to LOCK/OFF.
5. Repeat Steps 2–4 two more times. After the third time, turn to ON/RUN; the key is learned and all previously known keys will no longer work with the vehicle.

Remaining keys can be learned by following the procedure in "Programming with a Recognized Transmitter."

Battery Replacement

Replace the battery if the REPLACE BATTERY IN REMOTE KEY message displays in the DIC. See *Key and Lock Messages* ⇨ *121*.

Caution
When replacing the battery, do not touch any of the circuitry on the transmitter. Static from your body could damage the transmitter.

The battery is not rechargeable. To replace the battery:

1. Press the button on the transmitter to extend the key.
2. Remove the battery cover by prying with a finger.
3. Remove the battery by pushing on the battery and sliding it toward the key blade.
4. Insert the new battery, positive side facing up. Push the battery down until it is held in place. Replace with a CR2032 or equivalent battery.
5. Snap the battery cover back on to the transmitter.

Remote Vehicle Start

The vehicle may have this feature that allows you to start the engine from outside the vehicle.

: This button will be on the RKE transmitter if the vehicle has remote start.

The climate control system will use the previous settings during a remote start. The rear defog may come on during remote start based on cold ambient conditions. The rear defog indicator light does not come on during remote start.

If the vehicle has heated seats, they may come on during a remote start. See *Heated Front Seats* ⇨ *52*.

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Laws in some local communities may restrict the use of remote starters. For example, some laws require a person using remote start to have the vehicle in view. Check local regulations for any requirements.

Other conditions can affect the performance of the transmitter. See *Remote Keyless Entry (RKE) System* ⇨ 27.

Starting the Engine Using Remote Start

To start the engine using the remote start feature:

1. Press and release on the RKE transmitter.
2. Immediately press and hold for at least four seconds or until the turn signal lamps flash. The turn signal lamps flashing confirms the request to remote start the vehicle has been received.

 The parking lamps will turn on and remain on as long as the engine is running. The vehicle's doors will be locked.
3. The key must be inserted and turned to ON/RUN before driving.

 The engine will shut off after 10 minutes unless a time extension is done or the key is inserted and turned to ON/RUN.

Extending Engine Run Time

For a 10-minute extension, after 30 seconds repeat Steps 1 and 2 while the engine is still running. The remote start can be extended once.

When the remote start is extended, the second 10 minutes will start immediately.

For example, if the engine has been running for five minutes, and 10 minutes are added, the engine will run for a total of 15 minutes.

A maximum of two remote starts or a start with an extension are allowed between ignition cycles.

The vehicle's ignition switch must be turned to ON/RUN and then back to LOCK/OFF using the key, before the remote start procedure can be used again.

Canceling a Remote Start

To shut off the engine:

- Press and hold until the parking lamps turn off.
- Turn on the hazard warning flashers.
- Insert the key and turn it ON/RUN and then back to LOCK/OFF.

Conditions in Which Remote Start Will Not Work

The remote vehicle start feature will not operate if:

- The key is in the ignition.
- The hood is not closed.
- The hazard warning flashers are on.
- There is an emission control system malfunction.

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- The engine coolant temperature is too high.
- The oil pressure is low.
- Two remote vehicle starts or a start with an extension have already been used.
- The vehicle is not in P (Park).

Remote Start Ready

If the vehicle does not have the remote vehicle start feature, it may have the remote start ready feature. This feature allows your dealer to add the manufacturer's remote vehicle start feature. See your dealer to add the manufacturer's remote vehicle start feature to the vehicle.

Door Locks

⚠ Warning

Unlocked doors can be dangerous.

- Passengers, especially children, can easily open the doors and fall out of a moving vehicle. The chance of being thrown out of the vehicle in a crash is increased if the doors are not locked. So, all passengers should wear safety belts properly and the doors should be locked whenever the vehicle is driven.
- Young children who get into unlocked vehicles may be unable to get out. A child can be overcome by extreme heat and can suffer permanent injuries or even death from heat stroke. Always lock the vehicle whenever leaving it.

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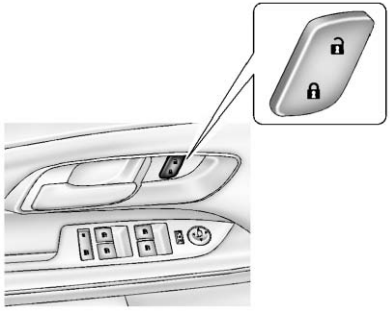
Warning (Continued)

- Outsiders can easily enter through an unlocked door when slowing or stopping the vehicle. Lock the doors to help prevent this from happening.

To lock or unlock a door from the outside of the vehicle, use the Remote Keyless Entry (RKE) transmitter. Pull the handle once from the inside to unlock the door, and a second time to open it.

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Power Door Locks



: Press to lock the doors.

: Press to unlock the doors.

Delayed Locking

This feature delays the locking of the doors until five seconds after all doors are closed.

When is pressed on the power door lock switch while the door is open, a chime will sound three times indicating delayed locking is active.

The doors will lock automatically five seconds after all doors are closed. If a door is reopened before that time, the five-second timer will reset when all doors are closed again.

Press on the door lock switch again or press on the RKE transmitter to lock the doors immediately.

This feature can also be programmed. See *Vehicle Personalization* ⇨ *124*.

Automatic Door Locks

The doors will lock automatically when all doors are closed, the ignition is on, and the vehicle is shifted out of P (Park).

To unlock the doors:

- Press on the power door lock switch.
- Shift the transmission into P (Park).

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Automatic door locking cannot be disabled. Automatic door unlocking can be programmed. See *Vehicle Personalization* ⇨ *124*.

Lockout Protection

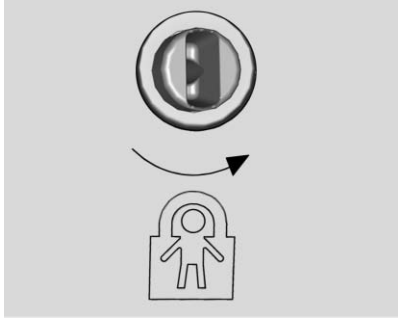
When locking is requested with the driver door open and the key in the ignition, all the doors will lock and then the driver door will unlock.

This can be manually overridden by pressing and holding on the power door lock switch.

Safety Locks

The rear door safety locks prevent passengers from opening the rear doors from inside the vehicle.

Manual Safety Locks



The safety lock is located on the inside edge of the rear doors. To use the safety lock:

1. Insert the key into the safety lock slot and turn it so the slot is in the horizontal position.
2. Close the door.
3. Do the same for the other rear door.

To open a rear door when the safety lock is on:

1. Unlock the door by activating the inside handle, by using the power door lock switch, or by using the Remote Keyless Entry (RKE) transmitter.
2. Open the door from the outside.

To cancel the safety lock:

1. Unlock the door and open it from the outside.
2. Insert the key into the safety lock slot and turn it so the slot is in the vertical position. Do the same for the other door.

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Doors

Liftgate

⚠ Warning

Exhaust gases can enter the vehicle if it is driven with the liftgate or trunk/hatch open, or with any objects that pass through the seal between the body and the trunk/hatch or liftgate. Engine exhaust contains carbon monoxide (CO) which cannot be seen or smelled. It can cause unconsciousness and even death.

If the vehicle must be driven with the liftgate or trunk/hatch open:

- Close all of the windows.
- Fully open the air outlets on or under the instrument panel.
- Adjust the climate control system to a setting that brings in only outside air

(Continued)

Warning (Continued)

and set the fan speed to the highest setting. See “Climate Control Systems” in the Index.

- If the vehicle is equipped with a power liftgate, disable the power liftgate function.

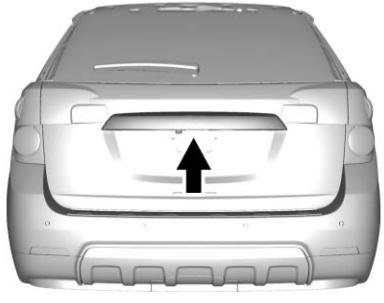
See *Engine Exhaust* ⇨ *170*.

Caution

To avoid damage to the liftgate or liftgate glass, make sure the area above and behind the liftgate is clear before opening it.

Manual Liftgate

To unlock the liftgate, press the power door lock switch or press on the Remote Keyless Entry (RKE) transmitter twice within five seconds. See *Remote Keyless Entry (RKE) System Operation* ⇨ *27*.



To open the liftgate, press the touch pad under the liftgate handle and lift up.

Use the pull cup to lower and close the liftgate. Do not press the touch pad while closing the liftgate. This may cause the liftgate to be unlatched.

Always close the liftgate before driving.

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Power Liftgate

⚠ Warning

You or others could be injured if caught in the path of the power liftgate. Make sure there is no one in the way of the liftgate as it is opening and closing.

Caution

Driving with an open and unsecured liftgate may result in damage to the power liftgate components.



If equipped, the power liftgate switch is on the overhead console. The vehicle must be in P (Park) to operate. The taillamps flash when the power liftgate moves.

The three modes are:

MAX : Opens to maximum height.

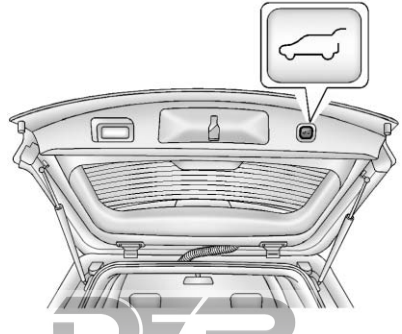
3/4 : Opens to a reduced height that can be set by the vehicle operator. Use this setting to prevent the liftgate from opening into overhead obstructions such as a garage door or roof mounted cargo during power operation. The liftgate can still be fully opened manually.

OFF : Opens manually only.

Manual operation of a liftgate that also has power operation requires more effort than a standard manual liftgate.

To open or close the liftgate, select MAX or 3/4 mode and then:

- Press and hold HOLD on the RKE transmitter until the liftgate starts moving. See *Remote Keyless Entry (RKE) System Operation* ⇨ *27*.
- Press the power liftgate switch on the overhead console, with the driver door unlocked.



Press and release on the liftgate next to the latch to close the liftgate.

Press any liftgate switch or the touch pad while the liftgate is moving to stop it. Pressing again restarts the motion. There is a minimum distance that the power liftgate must already be open for the system to hold it open. If movement is stopped below that minimum, the liftgate closes.

Caution
Manually forcing the liftgate to open or close during a power cycle can damage the vehicle. Allow the power cycle to complete.

The power liftgate may be temporarily disabled under extreme temperatures or low battery conditions. If this occurs, the liftgate can still be operated manually.

If the vehicle is shifted out of P (Park) while the power function is in progress, the liftgate will continue

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to completion. If the vehicle is accelerated before the liftgate has completed moving, the liftgate may stop or reverse direction. Check for Driver Information Center (DIC) messages and make sure the liftgate is closed and latched before driving.

Falling Liftgate Detection

The power liftgate will automatically close if the support strut has lost pressure. See your dealer for service before using the power liftgate.

Obstacle Detection Features

If the liftgate encounters an obstacle during a power open or close cycle, the liftgate will automatically reverse direction and move a short distance away from the obstacle. After removing the obstruction, the power liftgate operation can be used again. If the liftgate encounters multiple obstacles on the same power cycle, the power function will deactivate. After removing the obstructions, manually close the liftgate which will allow normal power operation functions to resume.

If the vehicle is locked while the liftgate is closing, and an obstacle is encountered that prevents the liftgate from completely closing, the horn will sound as an alert that the liftgate did not close.

Pinch sensors are located on the side edges of the liftgate. If an object is caught between the liftgate and the vehicle and presses against this sensor, the liftgate will reverse direction and stop at the first position at which the liftgate can hold open. The liftgate will remain open until it is activated again or closed manually.

Setting the 3/4 Mode

To change the position the liftgate stops at when opening:

1. Select MAX or 3/4 mode and open the liftgate.
2. Stop the liftgate movement at the desired height by pressing any liftgate switch. Manually adjust the liftgate position if needed.
3. Press and hold on the liftgate next to the latch until the turn signals flash and a beep sounds to indicate that the new setting is recorded.

When power opened with the 3/4 mode selected, the liftgate stops at the new set position.

If there is no audible and visual feedback when setting the intermediate stop position, the liftgate height is being set below the 3/4 open height minimum (approximately 1.5 m or 5 ft). The liftgate cannot be set below that minimum and the new setting will not be recorded.

Manual Operation of Power Liftgate

To change the liftgate to manual operation, turn the mode switch to the OFF position.

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Caution
Attempting to move the liftgate too quickly and with excessive force may result in damage to the vehicle.

With the power liftgate disabled and all of the doors unlocked, the liftgate can be manually opened and closed. Manual operation of a liftgate that also has power operation requires more effort than a standard manual liftgate.

To open the liftgate, press the touch pad under the liftgate handle and lift up. To close the liftgate, use the pull cup to lower the liftgate and close. With the power liftgate disabled, the liftgate electric latch will still power latch once contact is made with the striker. Always close the liftgate before driving.

If HOLD on the RKE transmitter is pressed while power operation is disabled, the turn signals flash and the liftgate will not move.

The liftgate has an electric latch. If the battery is disconnected or has low voltage, the liftgate will not open. The liftgate will resume operation when the battery is reconnected and charged.

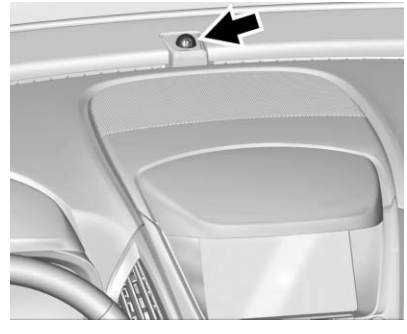
DEP
DEALER E-PROCESS

Vehicle Security

This vehicle has theft-deterrent features; however, they do not make the vehicle impossible to steal.

Vehicle Alarm System

This vehicle has an anti-theft alarm system.



The indicator light, on the instrument panel near the windshield, indicates the status of the system:

Off : Alarm system is disarmed.

On Solid : Vehicle is secured during the delay to arm the system.

Fast Flash : Vehicle is unsecured. A door, the hood, or the liftgate is open.

Slow Flash : Alarm system is armed.

Arming the Alarm System

1. Turn off the vehicle.
2. Lock the vehicle in one of three ways:
 - Use the RKE transmitter.
 - With a door open, press the interior .
3. After 30 seconds the alarm system will arm, and the indicator light will begin to slowly flash indicating the alarm system is operating. Pressing on the RKE transmitter a second time will bypass the 30-second delay and immediately arm the alarm system.

The vehicle alarm system will not arm if the doors are locked with the key.

If the driver door is opened without first unlocking with the RKE transmitter, the horn will chirp and the lights will flash to indicate pre-alarm. If the vehicle is not started, or the door is not unlocked by pressing on the RKE transmitter during the 10-second pre-alarm, the alarm will be activated.

If a door, the hood, or the liftgate is opened without first disarming the system, the turn signals will flash and the horn will sound for about 30 seconds. The alarm system will then re-arm to monitor for the next unauthorized event.

Disarming the Alarm System

To disarm the alarm system or turn off the alarm if it has been activated:

- Press on the RKE transmitter.
- Start the vehicle.

To avoid setting off the alarm by accident:

- Lock the vehicle after all occupants have left the vehicle and all doors are closed.
- Always unlock a door with the RKE transmitter.

Unlocking the driver door with the key will not disarm the system or turn off the alarm.

How to Detect a Tamper Condition

If is pressed on the RKE transmitter and the horn chirps and the lights flash three times, an alarm occurred previously while the alarm system was armed.

If the alarm has been activated, a message will appear on the DIC. See *Security Messages* ⇨ *123*.

Immobilizer

See *Radio Frequency Statement* ⇨ *304*.

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Immobilizer Operation

This vehicle has a passive theft-deterrent system.

The system does not have to be manually armed or disarmed.

The vehicle is automatically immobilized when the key is removed from the ignition.

The system is automatically disarmed when the vehicle is started with the correct key. The key uses a transponder that matches an immobilizer control unit in the vehicle and automatically disarms the system. Only an authorized key starts the vehicle. The vehicle may not start if the key is damaged.



The security light in the instrument cluster comes on if there is a problem with arming or disarming the theft-deterrent system.

When trying to start the vehicle, the security light comes on briefly when the ignition is turned on.

If the engine does not start and the security light stays on, there is a problem with the system. Turn the ignition off and try again.

If the engine still does not start, and the key appears to be undamaged or the light continues to stay on, try another ignition key. If the engine does not start with the other key, the vehicle needs service. If the vehicle does start, the first key may be damaged. See your dealer who can service the theft-deterrent system and have a new key made.

Do not leave the key or device that disarms or deactivates the theft-deterrent system in the vehicle.

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DEALER E-PROCESS

Exterior Mirrors

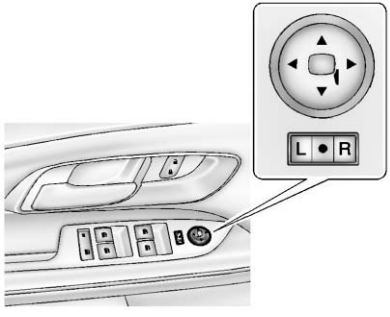
Convex Mirrors

⚠ Warning

A convex mirror can make things, like other vehicles, look farther away than they really are. If you cut too sharply into the right lane, you could hit a vehicle on the right. Check the inside mirror or glance over your shoulder before changing lanes.

The passenger side mirror is convex shaped. A convex mirror's surface is curved so more can be seen from the driver seat.

Power Mirrors



To adjust the mirrors:

1. Move the selector switch to L (Left) or R (Right) to choose the driver or passenger mirror.
2. Press the arrows on the control pad to move each mirror in the desired direction.
3. Return the selector switch to the middle position.

Heated Mirrors

For vehicles with heated mirrors:

The heated outside rearview mirrors turn on when the rear window defogger is on and help to clear fog or frost from the surface of the mirrors.

REAR : This button is on the climate control panel.

See “Rear Window Defogger” under *Automatic Climate Control System* ⇨ *143* for more information.

Reverse Tilt Mirrors

If equipped with memory seats, the passenger and/or driver mirror tilts to a preselected position when the vehicle is in R (Reverse). This allows the curb to be seen when parallel parking.

The mirror(s) return to the original position when:

- The vehicle is shifted out of R (Reverse), or remains in R (Reverse) for about 30 seconds.
- The ignition is turned off.
- The vehicle is driven in R (Reverse) above a set speed.

To turn this feature on or off, see *Vehicle Personalization* ⇨ *124*.

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Interior Mirrors

Interior Rearview Mirrors

Adjust the rearview mirror for a clear view of the area behind your vehicle.

If equipped with OnStar, there are three buttons at the bottom of the mirror. See your dealer for more information on the system and how to subscribe to OnStar. See *OnStar Overview* ⇨ *308*.

To avoid accidental OnStar calls, clean the mirror with the ignition off. Do not spray glass cleaner directly on the mirror. Use a soft towel dampened with water.

Manual Rearview Mirror

Push the tab forward for daytime use and pull it rearward for nighttime use to avoid glare of the headlamps from behind.

Automatic Dimming Rearview Mirror

If equipped, automatic dimming reduces the glare of headlamps from behind. The dimming feature comes on when the vehicle is started.

DEP
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Windows

⚠ Warning

Never leave a child, a helpless adult, or a pet alone in a vehicle, especially with the windows closed in warm or hot weather. They can be overcome by the extreme heat and suffer permanent injuries or even death from heat stroke.



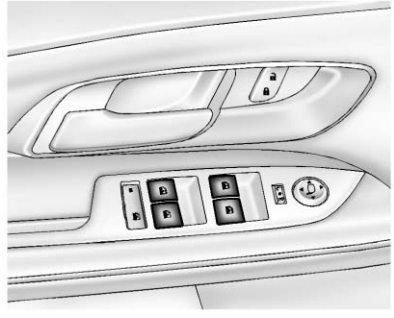
The vehicle aerodynamics are designed to improve fuel economy performance. This may result in a

pulsing sound when either rear window is down and the front windows are up. To reduce the sound, open either a front window or the sunroof, if equipped.

Power Windows

⚠ Warning

Children could be seriously injured or killed if caught in the path of a closing window. Never leave keys in a vehicle with children. When there are children in the rear seat, use the window lockout button to prevent operation of the windows. See *Keys* ⇨ *25*.



The power windows work when the ignition is in ON/RUN or ACC/ ACCESSORY, or in Retained Accessory Power (RAP). See *Retained Accessory Power (RAP)* ⇨ *167*.

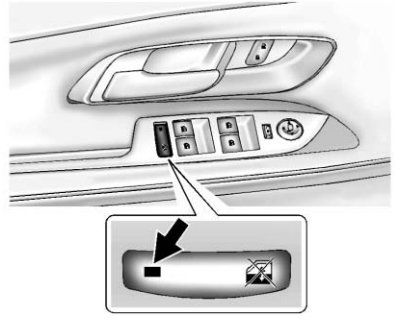
Press the front of the switch to open the window. Pull the switch up to close it.

Express-Down Windows

Windows that have the express-down feature allow the windows to be lowered without holding the switch. Press the window switch fully and release it to activate the express-down feature.

The express mode can be canceled at any time by briefly pressing, or pulling the switch.

Window Lockout



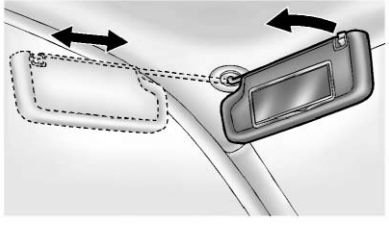
This feature prevents the rear passenger windows from operating, except from the driver position.

Press to activate the rear window lockout switch. The indicator light comes on when activated.

Press again to deactivate the lockout switch.

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Sun Visors



Pull the sun visor down to block glare. Detach the sun visor from the center mount to pivot to the side window or, if equipped, extend along the rod.

Roof

Sunroof

If equipped, the sunroof switches are on the headliner above the rearview mirror. The ignition must be in ON/RUN or ACC/ACCESSORY, or in Retained Accessory Power (RAP) to operate the sunroof. See *Ignition Positions* ⇨ *164* and *Retained Accessory Power (RAP)* ⇨ *167*.



1. Slide Switch
2. Tilt Switch

Slide Switch

Express-Open/Express-Close : Press and release (1) to express-open the sunroof. Press and release (1) to express-close the sunroof.

Open/Close (Manual Mode) : Press and hold (1) to open the sunroof. Press and hold (1) to close. The sunshade automatically opens with the sunroof, but must be closed manually.

Tilt Switch

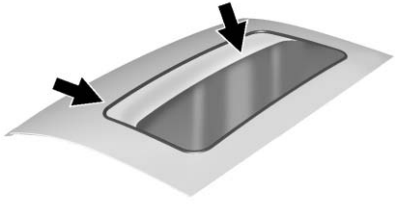
Vent : Press and hold (2) to vent the sunroof. Press and hold (2) to close.

Automatic Reversal System

The sunroof is equipped with an automatic reversal system that is only active when the sunroof is being operated in express mode. If an object is in the path of the sunroof while it is express-closing, the reversal system will detect the object and stop. In the event of closing difficulties like frost or other

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conditions, it is possible to override the reversal system. To override the reversal system, close in manual mode. To stop the movement, release the switch.



Dirt and debris may collect on the sunroof seal or in the track. This could cause an issue with sunroof operation or noise. It could also plug the water drainage system. Periodically open the sunroof and remove any obstacles or loose debris. Wipe the sunroof seal and roof sealing area using a clean cloth, mild soap, and water. Do not remove grease from the sunroof.

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Head Restraints

Front Seats

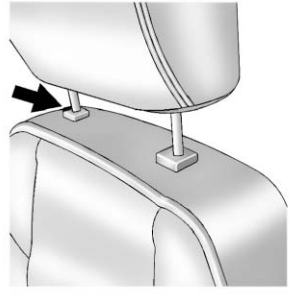
The vehicle's front seats have head restraints in the outboard seating positions.

⚠ Warning

With head restraints that are not installed and adjusted properly, there is a greater chance that occupants will suffer a neck/spinal injury in a crash. Do not drive until the head restraints for all occupants are installed and adjusted properly.



Adjust the head restraint so that the top of the restraint is at the same height as the top of the occupant's head. This position reduces the chance of a neck injury in a crash.



The height of the head restraint can be adjusted. Pull the head restraint up to raise it. Try to move the head restraint to make sure that it is locked in place.

To lower the head restraint, press the button, located on the top of the seatback, and push the head restraint down. Try to move the head restraint after the button is released to make sure that it is locked in place.

The front seat outboard head restraints are not removable.

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Rear Seats

The vehicle's rear seat has head restraints in the outboard seating positions that cannot be adjusted.

Rear outboard head restraints are not removable.

Front Seats

Seat Adjustment

⚠ Warning

You can lose control of the vehicle if you try to adjust a driver seat while the vehicle is moving. Adjust the driver seat only when the vehicle is not moving.

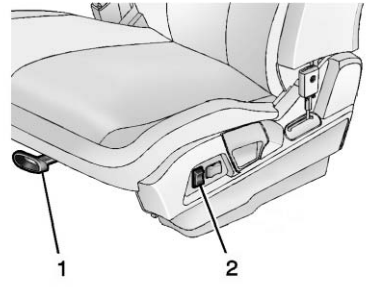


To adjust a manual seat:

1. Pull the handle at the front of the seat cushion.
2. Move the seat forward or rearward to adjust the seat position.
3. Release the handle to stop the seat from moving.
4. Try to move the seat back and forth to be sure it is locked in place.

Power Seat Adjustment

Four-Way Power Seat



1. Seat Position Handle
2. Height Adjustment Control

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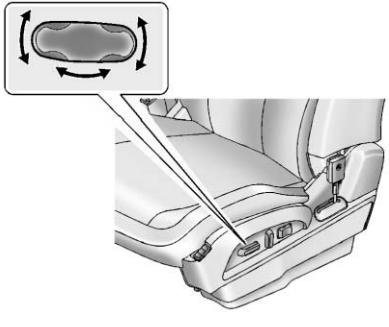
To adjust a power seat, if equipped:

- Move the seat forward or rearward using the handle under the front of the seat cushion (1). See *Seat Adjustment* ⇨ *47*.
- Raise or lower the entire seat by moving the control (2) up or down.

To adjust the seatback, see *Reclining Seatbacks* ⇨ *49*.

To adjust the lumbar support, see *Lumbar Adjustment* ⇨ *48*.

Eight-Way Power Seat



To adjust a power seat, if equipped:

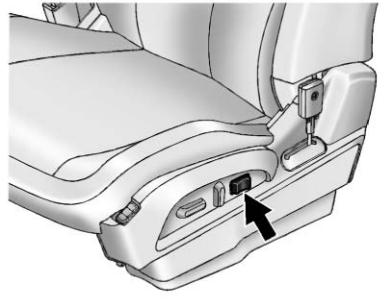
- Move the seat forward or rearward by sliding the control forward or rearward.
- Raise or lower the front part of the seat cushion by moving the front of the control up or down.
- Raise or lower the entire seat by moving the rear of the control up or down.

To adjust the seatback, see *Reclining Seatbacks* ⇨ *49*.

To adjust the lumbar support, see *Lumbar Adjustment* ⇨ *48*.

Lumbar Adjustment

Power Lumbar



Eight-Way Power Seat Shown, Four-Way Similar

If available, press and hold the front or rear of the switch to increase or decrease lumbar support. Release the switch when the seatback reaches the desired level of lumbar support.

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Reclining Seatbacks

⚠ Warning

Sitting in a reclined position when the vehicle is in motion can be dangerous. Even when buckled up, the safety belts cannot do their job.

The shoulder belt will not be against your body. Instead, it will be in front of you. In a crash, you could go into it, receiving neck or other injuries.

The lap belt could go up over your abdomen. The belt forces would be there, not at your pelvic bones. This could cause serious internal injuries.

For proper protection when the vehicle is in motion, have the seatback upright. Then sit well back in the seat and wear the safety belt properly.

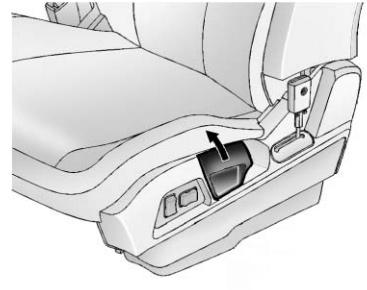


Do not have a seatback reclined if the vehicle is moving.

Manual Reclining Seatbacks

⚠ Warning

If either seatback is not locked, it could move forward in a sudden stop or crash. That could cause injury to the person sitting there. Always push and pull on the seatbacks to be sure they are locked.



To recline a manual seatback:

1. Lift the lever.
2. Move the seatback to the desired position, and then release the lever to lock the seatback in place.
3. Push and pull on the seatback to make sure it is locked.

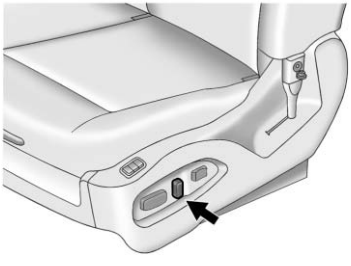
To return the seatback to the upright position:

1. Lift the lever fully without applying pressure to the seatback, and the seatback will return to the upright position.

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2. Push and pull on the seatback to make sure it is locked.

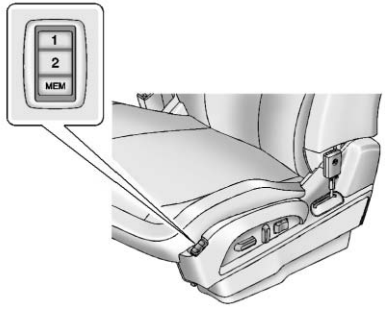
Power Reclining Seatbacks



To adjust a power seatback, if available:

- Tilt the top of the control rearward to recline.
- Tilt the top of the control forward to raise.

Memory Seats



If available, the 1, 2, and MEM (Memory) buttons on the outboard side of the driver seat are used to manually save and recall the driver seat and outside mirror positions. These manually stored positions are referred to as Button Memory positions.

The vehicle will also automatically save driver seat and outside mirror positions to the current driver Remote Keyless Entry (RKE) transmitter when the ignition is turned off. These automatically stored positions are referred to as RKE Memory positions. See *Remote Keyless Entry (RKE) System Operation* ⇨ *27*.

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Storing Button Memory Positions

To save positions into Button Memory:

1. Adjust the driver seat, seatback recliner, and both outside mirrors to the desired driving positions.
2. Press and hold MEM (Memory) and 1 at the same time until a beep sounds.
3. Repeat Steps 1 and 2 for a second driver using 2.

Recalling Button Memory Positions

To recall the Button Memory positions, press and hold 1 or 2. The driver seat and outside mirrors move to the positions stored to those buttons when pressed. Releasing 1 or 2 before the stored positions are reached stops the recall.

If something has blocked the driver seat while recalling a memory position, the recall may stop. Remove the obstruction; then press and hold the appropriate manual control for the memory item that is not recalling for two seconds. Try recalling the memory position again by pressing the appropriate memory button. If the memory position is still not recalling, see your dealer for service.

Recalling RKE Memory Positions (Memory Remote Recall)

The Memory Remote Recall feature can recall the driver seat and outside mirrors to previously stored RKE Memory positions when entering the vehicle.

Every time the ignition is turned off, the positions of the driver seat and outside mirrors are automatically stored to the RKE transmitter that was used to start the vehicle. These positions are called RKE Memory positions and may be different than the previously mentioned Button Memory positions saved to the 1 or 2 buttons. To recall RKE Memory positions, unlock the driver door with the RKE transmitter and open the driver door. If the driver door is already open, pressing the RKE transmitter button will also activate the RKE Memory recall. The driver seat and outside mirrors will move to the previously saved RKE Memory positions.

This feature is turned on or off using the vehicle personalization menu. See *Vehicle Personalization* ⇨ *124*.

To stop recall movement, press any of the memory, power mirror, or power seat controls.

If something has blocked the driver seat while recalling a memory position, the recall may stop. Remove the obstruction; then press and hold the appropriate manual control for the memory item that is not recalling for two seconds. Try recalling the memory position again by opening the driver door and pressing on the RKE transmitter.

RKE transmitters are not labeled with a number. If your memory seat position is stored to 1 or 2 but this position is not automatically recalling, then store your positions to the other button or switch RKE transmitters with the other driver.

If the memory position is still not recalling, see your dealer for service.

Easy Exit Driver Seat

This feature moves the seat rearward allowing the driver more room to exit the vehicle.

To activate, turn the ignition off and open the driver door. If the driver door is already open, turning the ignition off will activate the recall.

This feature can be turned on or off using the vehicle personalization menu. See *Vehicle Personalization* ⇨ *124*.

To stop recall movement, press one of the memory or power seat controls.

If something has blocked the driver seat while recalling the exit position, the recall may stop. Remove the obstruction; then press and hold the power seat control rearward for

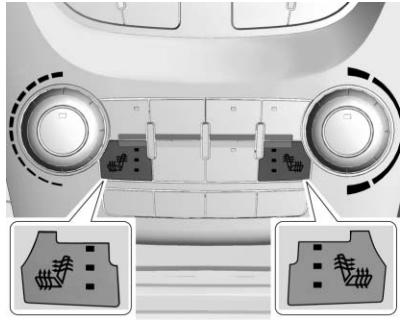
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two seconds. Try recalling the exit position again. If the exit position is still not recalling, see your dealer for service.

Heated Front Seats

⚠ Warning

If you cannot feel temperature change or pain to the skin, the seat heater may cause burns. To reduce the risk of burns, people with such a condition should use care when using the seat heater, especially for long periods of time. Do not place anything on the seat that insulates against heat, such as a blanket, cushion, cover, or similar item. This may cause the seat heater to overheat. An overheated seat heater may cause a burn or may damage the seat.



If available, the buttons are near the climate controls. To operate, the ignition must be in ON/RUN.

Press or to heat the driver or passenger seat cushion and seatback.

Press the button once for the highest setting. With each press of the button, the heated seat will change to the next lower setting, and then the off setting. Three lights indicate the highest setting, and one light indicates the lowest.

The passenger seat may take longer to heat up.

Remote Start Heated Seats

When it is cold outside, the heated seats can be programmed to turn on automatically during a remote vehicle start. The heated seats will be canceled when the ignition is turned on. Press the heated seat button to use the heated seats after the vehicle is started.

The heated seat button lights will not turn on during a remote start.

The temperature of an unoccupied seat may be reduced.

To program the heated seat feature to enabled, see *Vehicle Personalization* ⇨ *124*.

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Rear Seats

Split Folding Seatbacks

Either side of the rear seatback can be folded down for more cargo space.

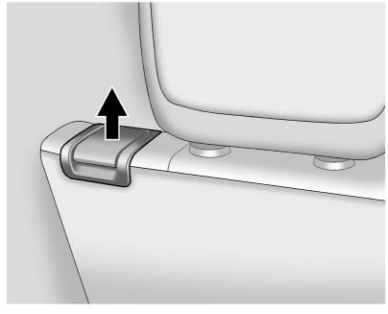
Folding the Seatbacks

Caution

Folding a rear seat with the safety belts still fastened may cause damage to the seat or the safety belts. Always unbuckle the safety belts and return them to their normal stowed position before folding a rear seat.

To fold the seatback down:

1. Unbuckle the rear safety belts and place the front seatbacks in the upright position. See *Reclining Seatbacks* ⇨ *49*.



2. Lift the lever on the top of the seatback.
3. Fold the seatback forward.

Keep the seatback in the upright, locked position when not in use.

Raising the Seatbacks

⚠ Warning

If either seatback is not locked, it could move forward in a sudden stop or crash. That could cause injury to the person sitting there.

(Continued)

Warning (Continued)

Always push and pull on the seatbacks to be sure they are locked.

⚠ Warning

A safety belt that is improperly routed, not properly attached, or twisted will not provide the protection needed in a crash. The person wearing the belt could be seriously injured. After raising the rear seatback, always check to be sure that the safety belts are properly routed and attached, and are not twisted.

To raise the seatback:

1. Lift the lever on top of the seatback. Raise the seatback and release the lever.
2. Push the seatback rearward until it locks in the upright position.

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3. Make sure the rear safety belts are not twisted or caught between the seat cushion and the seatback.

Reclining the Seatbacks

To recline the seatback:

1. Lift and hold the lever on top of the seatback.
2. Tilt the seatback rearward, then release the lever when the seatback is in the desired position.

Seat Adjustment

To slide the entire seat forward or rearward:

1. Lift and hold the release bar under the front of the seat cushion to unlock the seat.
2. Slide the seat to the desired position.
3. Release the bar.
4. Try to move the seat back and forth to ensure the seat is locked into place.

Safety Belts

This section describes how to use safety belts properly, and some things not to do.

⚠ Warning

Do not let anyone ride where a safety belt cannot be worn properly. In a crash, if you or your passenger(s) are not wearing safety belts, injuries can be much worse than if you are wearing safety belts. You can be seriously injured or killed by hitting things inside the vehicle harder or by being ejected from the vehicle. In addition, anyone who is not buckled up can strike other passengers in the vehicle.

It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a collision, passengers riding in these areas are more likely to be seriously injured or killed. Do not allow

(Continued)

Warning (Continued)

passengers to ride in any area of the vehicle that is not equipped with seats and safety belts.

Always wear a safety belt, and check that all passenger(s) are restrained properly too.

This vehicle has indicators as a reminder to buckle the safety belts. See *Safety Belt Reminders* ⇨ *105*.

Why Safety Belts Work



DEALER E-PROCESS

When riding in a vehicle, you travel as fast as the vehicle does. If the vehicle stops suddenly, you keep going until something stops you. It could be the windshield, the instrument panel, or the safety belts!

When you wear a safety belt, you and the vehicle slow down together. There is more time to stop because you stop over a longer distance and, when worn properly, your strongest bones take the forces from the safety belts. That is why wearing safety belts makes such good sense.

Questions and Answers About Safety Belts

Q: Will I be trapped in the vehicle after a crash if I am wearing a safety belt?

A: You *could* be — whether you are wearing a safety belt or not. Your chance of being conscious during and after a crash, so you *can* unbuckle and get out, is *much* greater if you are belted.

Q: If my vehicle has airbags, why should I have to wear safety belts?

A: Airbags are supplemental systems only. They work *with* safety belts — not instead of them. Whether or not an airbag is provided, all occupants still have to buckle up to get the most protection.

Also, in nearly all states and in all Canadian provinces, the law requires wearing safety belts.

How to Wear Safety Belts Properly

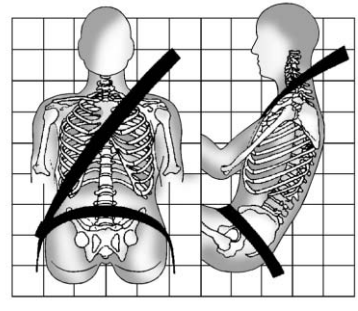
This section is only for people of adult size.

There are special things to know about safety belts and children, and there are different rules for smaller children and infants. If a child will be riding in the vehicle, see *Older Children* ⇨ *73* or *Infants and Young Children* ⇨ *75*. Follow those rules for everyone's protection.

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It is very important for all occupants to buckle up. Statistics show that unbelted people are hurt more often in crashes than those who are wearing safety belts.

There are important things to know about wearing a safety belt properly.



- Sit up straight and always keep your feet on the floor in front of you.
- Always use the correct buckle for your seating position.
- Wear the lap part of the belt low and snug on the hips, just touching the thighs. In a crash, this applies force to the strong

pelvic bones and you would be less likely to slide under the lap belt. If you slid under it, the belt would apply force on your abdomen. This could cause serious or even fatal injuries.

- Wear the shoulder belt over the shoulder and across the chest. These parts of the body are best able to take belt restraining forces. The shoulder belt locks if there is a sudden stop or crash.

⚠ Warning

You can be seriously injured, or even killed, by not wearing your safety belt properly.

- Never allow the lap or shoulder belt to become loose or twisted.
- Never wear the shoulder belt under both arms or behind your back.
- Never route the lap or shoulder belt over an armrest.

Lap-Shoulder Belt

All seating positions in the vehicle have a lap-shoulder belt.

The following instructions explain how to wear a lap-shoulder belt properly.

1. Adjust the seat, if the seat is adjustable, so you can sit up straight. To see how, see “Seats” in the Index.
2. Pick up the latch plate and pull the belt across you. Do not let it get twisted.

 The lap-shoulder belt may lock if you pull the belt across you very quickly. If this happens, let the belt go back slightly to unlock it. Then pull the belt across you more slowly.

 If the shoulder portion of a passenger belt is pulled out all the way, the child restraint locking feature may be engaged. If this happens, let the belt go back all the way and start again.



If the webbing locks in the latch plate before it reaches the buckle, tilt the latch plate flat to unlock.



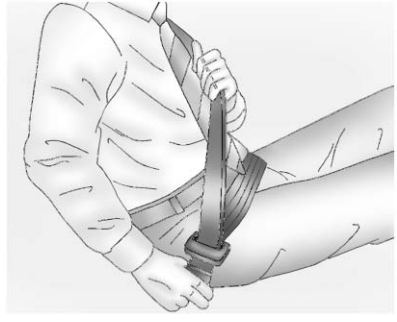
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3. Push the latch plate into the buckle until it clicks.

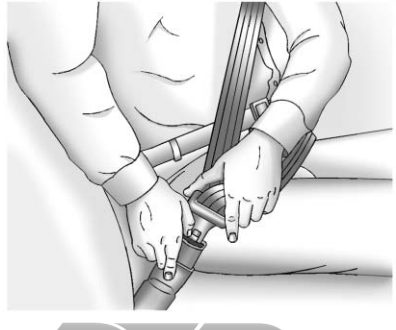
 Pull up on the latch plate to make sure it is secure. If the belt is not long enough, see *Safety Belt Extender* ⇨ *60*.

 Position the release button on the buckle so that the safety belt could be quickly unbuckled if necessary.

4. If equipped with a shoulder belt height adjuster, move it to the height that is right for you. See "Shoulder Belt Height Adjuster" later in this section for instructions on use and important safety information.



5. To make the lap part tight, pull up on the shoulder belt.



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To unlatch the belt, push the button on the buckle. The belt should return to its stowed position.

Always stow the safety belt slowly. If the safety belt webbing returns quickly to the stowed position, the retractor may lock and cannot be pulled out. If this happens, pull the safety belt straight out firmly to unlock the webbing, and then release it. If the webbing is still locked in the retractor, see your dealer.

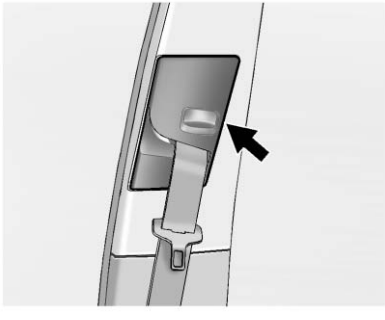
Before a door is closed, be sure the safety belt is out of the way. If a door is slammed against a safety belt, damage can occur to both the safety belt and the vehicle.

Shoulder Belt Height Adjuster

The vehicle has a shoulder belt height adjuster for the driver and front outboard passenger seating positions.

Adjust the height so the shoulder portion of the belt is on the shoulder and not falling off of it. The belt should be close to, but not contacting, the neck. Improper

shoulder belt height adjustment could reduce the effectiveness of the safety belt in a crash. See *How to Wear Safety Belts Properly* ⇨ *55*.



Push down on the release button and move the height adjuster to the desired position.

The adjuster can be moved up by pushing the release button up. After the adjuster is set to the desired position, try to move it down without pushing the release button to make sure it has locked into position.

Safety Belt Pretensioners

This vehicle has safety belt pretensioners for front outboard occupants. Although the safety belt pretensioners cannot be seen, they are part of the safety belt assembly. They can help tighten the safety belts during the early stages of a moderate to severe frontal, near frontal, or rear crash if the threshold conditions for pretensioner activation are met. Safety belt pretensioners can also help tighten the safety belts in a side crash or a rollover event.

Pretensioners work only once. If the pretensioners activate in a crash, the pretensioners and probably other parts of the vehicle's safety belt system will need to be replaced. See *Replacing Safety Belt System Parts after a Crash* ⇨ *61*.

Do not sit on the outboard safety belt while entering or exiting the vehicle, or at any time while sitting in the seat. Sitting on the safety belt can damage the webbing and hardware.

Rear Safety Belt Comfort Guides

⚠ Warning

A safety belt that is not properly worn may not provide the protection needed in a crash. The person wearing the belt could be seriously injured. The shoulder belt should go over the shoulder and across the chest. These parts of the body are best able to take belt restraining forces.

Rear safety belt comfort guides may provide added safety belt comfort for older children who have outgrown booster seats and for some adults. When installed on a shoulder belt, the comfort guide positions the shoulder belt away from the neck and head.

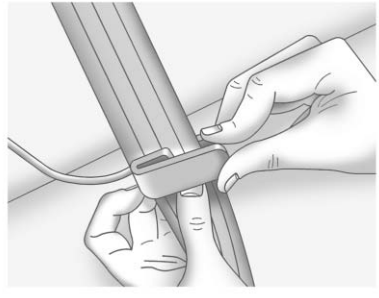
This vehicle will have rear safety belt comfort guides in the rear outboard seating positions.

DEP DEALER E-PROCESS

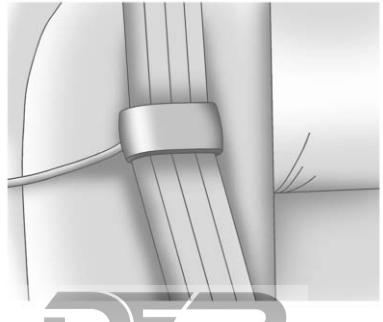
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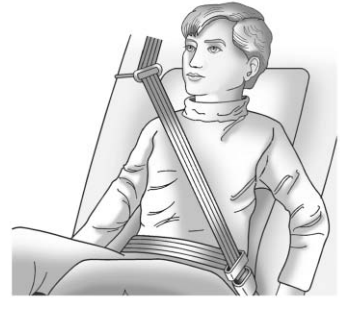
1. Remove the guide from its storage pocket on the side of the seatback.



2. Place the guide over the belt, and insert the two edges of the belt into the slots of the guide.



3. Be sure that the belt is not twisted and it lies flat. The elastic cord must be behind the belt with the plastic guide on the front.



4. Buckle, position, and release the safety belt as described previously in this section. Make sure the shoulder belt crosses the shoulder. The belt should be close to, but not contacting, the neck.

To remove and store the comfort guide, squeeze the belt edges together so that the safety belt can be removed from the guide. Slide

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the guide back into its storage pocket located on the side of the seatback.

Safety Belt Use During Pregnancy

Safety belts work for everyone, including pregnant women. Like all occupants, they are more likely to be seriously injured if they do not wear safety belts.



A pregnant woman should wear a lap-shoulder belt, and the lap portion should be worn as low as possible, below the rounding, throughout the pregnancy.

The best way to protect the fetus is to protect the mother. When a safety belt is worn properly, it is more likely that the fetus will not be hurt in a crash. For pregnant women, as for anyone, the key to making safety belts effective is wearing them properly.

Safety Belt Extender

If the vehicle's safety belt will fasten around you, you should use it.

But if a safety belt is not long enough, your dealer will order you an extender. When you go in to order it, take the heaviest coat you will wear, so the extender will be long enough for you. To help avoid personal injury, do not let someone else use it, and use it only for the seat it is made to fit. The extender has been designed for adults. Never use it for securing child restraints. To wear it, attach it to the regular safety belt. For more information, see the instruction sheet that comes with the extender.

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Safety System Check

Check that the safety belt reminder, safety belts, buckles, latch plates, and retractors, are all working properly. Look for any other loose or damaged safety belt system parts that might keep a safety belt system from performing properly. See your dealer to have it repaired. Torn or frayed safety belts may not protect you in a crash. They can rip apart under impact forces. If a belt is torn or frayed, have it replaced immediately.

Make sure the safety belt reminder light is working. See *Safety Belt Reminders* ⇨ *105*.

Keep safety belts clean and dry. See *Safety Belt Care* ⇨ *60*.

Safety Belt Care

Keep belts clean and dry.

⚠ Warning

Do not bleach or dye safety belt webbing. It may severely weaken the webbing. In a crash, they might not be able to provide adequate protection. Clean and rinse safety belt webbing only with mild soap and lukewarm water. Allow the webbing to dry.

Safety belts should be properly cared for and maintained.

Safety belt hardware should be kept dry and free of dust or debris. As necessary exterior hard surfaces and safety belt webbing may be lightly cleaned with mild soap and water. Ensure there is not excessive dust or debris in the mechanism. If dust or debris exists in the system please see the dealer. Parts may need to be replaced to ensure proper functionality of the system.

Replacing Safety Belt System Parts after a Crash

⚠ Warning

A crash can damage the safety belt system in the vehicle. A damaged safety belt system may not properly protect the person using it, resulting in serious injury or even death in a crash. To help make sure the safety belt systems are working properly after a crash, have them inspected and any necessary replacements made as soon as possible.

After a minor crash, replacement of safety belts may not be necessary. But the safety belt assemblies that were used during any crash may have been stressed or damaged. See your dealer to have the safety belt assemblies inspected or replaced.

New parts and repairs may be necessary even if the safety belt system was not being used at the time of the crash.

Have the safety belt pretensioners checked if the vehicle has been in a crash, or if the airbag readiness light stays on after you start the vehicle or while you are driving. See *Airbag Readiness Light* ⇨ *105*.

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Airbag System

The vehicle has the following airbags:

- A frontal airbag for the driver.
- A frontal airbag for the front outboard passenger.
- A seat-mounted side impact airbag for the driver.
- A seat-mounted side impact airbag for the front outboard passenger.
- A roof-rail airbag for the driver and the passenger seated directly behind the driver.
- A roof-rail airbag for the front outboard passenger and the passenger seated directly behind the front outboard passenger.

All vehicle airbags have the word AIRBAG on the trim or on a label near the deployment opening.

For frontal airbags, the word AIRBAG is on the center of the steering wheel for the driver and on the instrument panel for the front outboard passenger.

For seat-mounted side impact airbags, the word AIRBAG is on the side of the seat closest to the door.

For roof-rail airbags, the word AIRBAG is on the ceiling or trim.

Airbags are designed to supplement the protection provided by safety belts. Even though today's airbags are also designed to help reduce the risk of injury from the force of an inflating bag, all airbags must inflate very quickly to do their job.

Here are the most important things to know about the airbag system:

⚠ Warning

You can be severely injured or killed in a crash if you are not wearing your safety belt, even with airbags. Airbags are designed to work with safety

(Continued)

Warning (Continued)

belts, not replace them. Also, airbags are not designed to inflate in every crash. In some crashes safety belts are the only restraint. See *When Should an Airbag Inflate?* ⇨ *64*.

Wearing your safety belt during a crash helps reduce your chance of hitting things inside the vehicle or being ejected from it. Airbags are “supplemental restraints” to the safety belts. Everyone in the vehicle should wear a safety belt properly, whether or not there is an airbag for that person.

⚠ Warning

Because airbags inflate with great force and faster than the blink of an eye, anyone who is up against, or very close to any airbag when it inflates can be

(Continued)

DEP DEALER E-PROCESS

Warning (Continued)

seriously injured or killed. Do not sit unnecessarily close to any airbag, as you would be if sitting on the edge of the seat or leaning forward. Safety belts help keep you in position before and during a crash. Always wear a safety belt, even with airbags. The driver should sit as far back as possible while still maintaining control of the vehicle. The safety belts and the front outboard passenger airbags are most effective when you are sitting well back and upright in the seat with both feet on the floor.

Occupants should not lean on or sleep against the door or side windows in seating positions with seat-mounted side impact airbags and/or roof-rail airbags.

⚠ Warning

Children who are up against, or very close to, any airbag when it inflates can be seriously injured or killed. Always secure children properly in the vehicle. To read how, see *Older Children* ⇨ *73* or *Infants and Young Children* ⇨ *75*.



There is an airbag readiness light on the instrument cluster, which shows the airbag symbol.

The system checks the airbag electrical system for malfunctions. The light tells you if there is an electrical problem. See *Airbag Readiness Light* ⇨ *105*.

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DEALER E-PROCESS

Where Are the Airbags?



The driver frontal airbag is in the middle of the steering wheel.



The front outboard passenger frontal airbag is in the passenger side instrument panel.



Driver Side Shown, Passenger Side Similar

The driver and front outboard passenger seat-mounted side impact airbags are in the side of the seats closest to the door.



Driver Side Shown, Passenger Side Similar

The roof-rail airbags for the driver, front outboard passenger, and second row outboard passengers are in the ceiling above the side windows.

⚠ Warning

If something is between an occupant and an airbag, the airbag might not inflate properly or it might force the object into that person causing severe injury or even death. The path of an

(Continued)

Warning (Continued)

inflating airbag must be kept clear. Do not put anything between an occupant and an airbag, and do not attach or put anything on the steering wheel hub or on or near any other airbag covering.

Do not use seat accessories that block the inflation path of a seat-mounted side impact airbag.

Never secure anything to the roof of a vehicle with roof-rail airbags by routing a rope or tie-down through any door or window opening. If you do, the path of an inflating roof-rail airbag will be blocked.

When Should an Airbag Inflate?

This vehicle is equipped with airbags. See *Airbag System* ⇨ *62*. Airbags are designed to inflate if the impact exceeds the specific airbag system's deployment threshold.

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Deployment thresholds are used to predict how severe a crash is likely to be in time for the airbags to inflate and help restrain the occupants. The vehicle has electronic sensors that help the airbag system determine the severity of the impact. Deployment thresholds can vary with specific vehicle design.

Frontal airbags are designed to inflate in moderate to severe frontal or near frontal crashes to help reduce the potential for severe injuries, mainly to the driver's or front outboard passenger's head and chest.

Whether the frontal airbags will or should inflate is not based primarily on how fast the vehicle is traveling. It depends on what is hit, the direction of the impact, and how quickly the vehicle slows down.

Frontal airbags may inflate at different crash speeds depending on whether the vehicle hits an object straight on or at an angle, and whether the object is fixed or moving, rigid or deformable, narrow or wide.

Frontal airbags are not intended to inflate during vehicle rollovers, rear impacts, or many side impacts.

In addition, the vehicle has advanced technology frontal airbags. Advanced technology frontal airbags adjust the restraint according to crash severity.

Seat-mounted side impact airbags are designed to inflate in moderate to severe side crashes depending on the location of the impact. Seat-mounted side impact airbags are not designed to inflate in frontal impacts, near frontal impacts, rollovers, or rear impacts.
A seat-mounted side impact airbag is designed to inflate on the side of the vehicle that is struck.

Roof-rail airbags are designed to inflate in moderate to severe side crashes depending on the location of the impact. In addition, these roof-rail airbags are designed to inflate during a rollover or in a severe frontal impact. Roof-rail airbags are not designed to inflate in rear impacts. Both roof-rail airbags will inflate when either side of the vehicle is struck or if the sensing system predicts that the vehicle is about to roll over on its side, or in a severe frontal impact.

In any particular crash, no one can say whether an airbag should have inflated simply because of the vehicle damage or repair costs.

What Makes an Airbag Inflate?

In a deployment event, the sensing system sends an electrical signal triggering a release of gas from the inflator. Gas from the inflator fills the airbag causing the bag to break out of the cover. The inflator, the airbag, and related hardware are all part of the airbag module.

For airbag locations, see *Where Are the Airbags?* ⇨ *63*.

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How Does an Airbag Restrain?

In moderate to severe frontal or near frontal collisions, even belted occupants can contact the steering wheel or the instrument panel. In moderate to severe side collisions, even belted occupants can contact the inside of the vehicle.

Airbags supplement the protection provided by safety belts by distributing the force of the impact more evenly over the occupant's body.

Rollover capable roof-rail airbags are designed to help contain the head and chest of occupants in the outboard seating positions in the first and second rows. The rollover capable roof-rail airbags are designed to help reduce the risk of full or partial ejection in rollover events, although no system can prevent all such ejections.

But airbags would not help in many types of collisions, primarily because the occupant's motion is not toward those airbags. See *When Should an Airbag Inflate?* ⇨ *64*.

Airbags should never be regarded as anything more than a supplement to safety belts.

What Will You See after an Airbag Inflates?

After the frontal airbags and seat-mounted side impact airbags inflate, they quickly deflate, so quickly that some people may not even realize an airbag inflated. Roof-rail airbags may still be at least partially inflated for some time after they inflate. Some components of the airbag module may be hot for several minutes. For location of the airbags, see *Where Are the Airbags?* ⇨ *63*.

The parts of the airbag that come into contact with you may be warm, but not too hot to touch. There may be some smoke and dust coming from the vents in the deflated airbags. Airbag inflation does not prevent the driver from seeing out of the windshield or being able to steer the vehicle, nor does it prevent people from leaving the vehicle.

⚠ Warning

When an airbag inflates, there may be dust in the air. This dust could cause breathing problems for people with a history of asthma or other breathing trouble. To avoid this, everyone in the vehicle should get out as soon as it is safe to do so. If you have breathing problems but cannot get out of the vehicle after an airbag inflates, then get fresh air by opening a window or a door. If you experience breathing problems following an airbag deployment, you should seek medical attention.

The vehicle has a feature that may automatically unlock the doors, turn on the interior lamps and hazard warning flashers, and shut off the fuel system after the airbags inflate.

DEALER E-PROCESS

The feature may also activate, without airbag inflation, after an event that exceeds a predetermined threshold. You can lock the doors, turn off the interior lamps, and turn off the hazard warning flashers by using the controls for those features.

⚠ Warning

A crash severe enough to inflate the airbags may have also damaged important functions in the vehicle, such as the fuel system, brake and steering systems, etc. Even if the vehicle appears to be drivable after a moderate crash, there may be concealed damage that could make it difficult to safely operate the vehicle.

Use caution if you should attempt to restart the engine after a crash has occurred.

In many crashes severe enough to inflate the airbag, windshields are broken by vehicle deformation. Additional windshield breakage may also occur from the front outboard passenger airbag.

- Airbags are designed to inflate only once. After an airbag inflates, you will need some new parts for the airbag system. If you do not get them, the airbag system will not be there to help protect you in another crash. A new system will include airbag modules and possibly other parts. The service manual for the vehicle covers the need to replace other parts.
- The vehicle has a crash sensing and diagnostic module which records information after a crash. See *Vehicle Data Recording and Privacy* ⇨ *306* and *Event Data Recorders* ⇨ *306*.
- Let only qualified technicians work on the airbag systems. Improper service can mean that an airbag system will not work properly. See your dealer for service.

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Passenger Sensing System

The vehicle has a passenger sensing system for the front outboard passenger position. The passenger airbag status indicator will light on the overhead console when the vehicle is started.



United States



Canada and Mexico

The words ON and OFF, or the symbols for on and off, will be visible during the system check. When the system check is complete, either the word ON or

OFF, or the symbol for on or off, will be visible. See *Passenger Airbag Status Indicator* ⇨ *106*.

The passenger sensing system turns off the front outboard passenger frontal airbag under certain conditions. No other airbag is affected by the passenger sensing system.

The passenger sensing system works with sensors that are part of the front outboard passenger seat. The sensors are designed to detect the presence of a properly-seated occupant and determine if the front outboard passenger frontal airbag should be allowed to inflate or not.

According to accident statistics, children are safer when properly secured in a rear seat in the correct child restraint for their weight and size.

Whenever possible, children age 12 and under should be secured in a rear seating position.

Never put a rear-facing child seat in the front. This is because the risk to the rear-facing child is so great, if the airbag inflates.

⚠ Warning

A child in a rear-facing child restraint can be seriously injured or killed if the passenger frontal airbag inflates. This is because the back of the rear-facing child restraint would be very close to the inflating airbag. A child in a forward-facing child restraint can be seriously injured or killed if the passenger frontal airbag inflates and the passenger seat is in a forward position.

Even if the passenger sensing system has turned off the passenger frontal airbag, no system is fail-safe. No one can guarantee that an airbag will not deploy under some unusual circumstance, even though the airbag is turned off.

(Continued)

Warning (Continued)

Never put a rear-facing child restraint in the front seat, even if the airbag is off. If securing a forward-facing child restraint in the front outboard passenger seat, always move the seat as far back as it will go. It is better to secure child restraints in the rear seat. Consider using another vehicle to transport the child when a rear seat is not available.

The passenger sensing system is designed to turn off the front outboard passenger frontal airbag if:

- The front outboard passenger seat is unoccupied.
- The system determines that an infant is present in a child restraint.
- A front outboard passenger takes his/her weight off of the seat for a period of time.

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- There is a critical problem with the airbag system or the passenger sensing system.

When the passenger sensing system has turned off the front outboard passenger frontal airbag, the off indicator will light and stay lit to remind you that the airbag is off. See *Passenger Airbag Status Indicator* ⇨ *106*.

The passenger sensing system is designed to turn on the front outboard passenger frontal airbag anytime the system senses that a person of adult size is sitting properly in the front outboard passenger seat.

When the passenger sensing system has allowed the airbag to be enabled, the on indicator will light and stay lit as a reminder that the airbag is active.

For some children, including children in child restraints, and for very small adults, the passenger sensing system may or may not turn off the front outboard passenger frontal airbag, depending upon the person's seating posture and body build. Everyone in the vehicle who has outgrown child restraints should wear a safety belt properly — whether or not there is an airbag for that person.

⚠ Warning

If the airbag readiness light ever comes on and stays on, it means that something may be wrong with the airbag system. To help avoid injury to yourself or others, have the vehicle serviced right away. See *Airbag Readiness Light* ⇨ *105* for more information, including important safety information.

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If the On Indicator is Lit for a Child Restraint

The passenger sensing system is designed to turn off the front outboard passenger frontal airbag if the system determines that an infant is present in a child restraint. If a child restraint has been installed and the on indicator is lit:

1. Turn the vehicle off.
2. Remove the child restraint from the vehicle.
3. Remove any additional items from the seat such as blankets, cushions, seat covers, seat heaters, or seat massagers.
4. Reinstall the child restraint following the directions provided by the child restraint manufacturer and refer to *Securing Child Restraints (With the Safety Belt in the Rear Seat)* ⇨ *86* or *Securing Child Restraints (With the Safety Belt in the Front Seat)* ⇨ *88*.
5. If, after reinstalling the child restraint and restarting the vehicle, the on indicator is still

lit, turn the vehicle off. Then slightly recline the vehicle seatback and adjust the seat cushion, if adjustable, to make sure that the vehicle seatback is not pushing the child restraint into the seat cushion.

Also make sure the child restraint is not trapped under the vehicle head restraint. If this happens, adjust the head restraint. See *Head Restraints* ⇨ *46*.

6. Restart the vehicle.

The passenger sensing system may or may not turn off the airbag for a child in a child restraint depending upon the child's size. It is better to secure the child restraint in a rear seat. Never put a rear-facing child restraint in the front seat, even if the on indicator is not lit.

If the Off Indicator is Lit for an Adult-Sized Occupant



If a person of adult size is sitting in the front outboard passenger seat, but the off indicator is lit, it could be because that person is not sitting properly in the seat. Use the following steps to allow the system to detect that person and enable the front outboard passenger frontal airbag:

1. Turn the vehicle off.
2. Remove any additional material from the seat, such as blankets, cushions, seat covers, seat heaters, or seat massagers.
3. Place the seatback in the fully upright position.
4. Have the person sit upright in the seat, centered on the seat cushion, with legs comfortably extended.
5. Restart the vehicle and have the person remain in this position for two to three minutes after the on indicator is lit.

⚠ Warning

If the front outboard passenger airbag is turned off for an adult-sized occupant, the airbag will not be able to inflate and help protect that person in a crash, resulting in an increased risk of serious injury or even death. An adult-sized occupant should not

(Continued)

DEP DEALER E-PROCESS

Warning (Continued)

ride in the front outboard passenger seat, if the passenger airbag off indicator is lit.

Additional Factors Affecting System Operation

Safety belts help keep the passenger in position on the seat during vehicle maneuvers and braking, which helps the passenger sensing system maintain the passenger airbag status. See “Safety Belts” and “Child Restraints” in the Index for additional information about the importance of proper restraint use.

A thick layer of additional material, such as a blanket or cushion, or aftermarket equipment such as seat covers, seat heaters, and seat massagers can affect how well the passenger sensing system operates. We recommend that you not use seat covers or other aftermarket equipment except when approved by GM for your specific vehicle. See *Adding Equipment to the Airbag-Equipped Vehicle* ⇨ *72* for more information about modifications that can affect how the system operates.

A wet seat can affect the performance of the passenger sensing system. Here is how:

- The passenger sensing system may turn off the passenger airbag when liquid is soaked into the seat. If this happens, the off indicator will be lit, and the airbag readiness light on the instrument panel will also be lit.
- Liquid pooled on the seat that has not soaked in may make it more likely that the passenger sensing system will turn on the passenger airbag while a child restraint or child occupant is on the seat. If the passenger airbag is turned on, the on indicator will be lit.

If the passenger seat gets wet, dry the seat immediately. If the airbag readiness light is lit, do not install a child restraint or allow anyone to occupy the seat. See *Airbag Readiness Light* ⇨ *105* for important safety information.

The on indicator may be lit if an object, such as a briefcase, handbag, grocery bag, laptop or other electronic device, is put on an unoccupied seat. If this is not desired remove the object from the seat.

⚠ Warning

Stowing of articles under the passenger seat or between the passenger seat cushion and seatback may interfere with the proper operation of the passenger sensing system.

Servicing the Airbag-Equipped Vehicle

Airbags affect how the vehicle should be serviced. There are parts of the airbag system in several places around the vehicle. Your dealer and the service manual have information about servicing the

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vehicle and the airbag system. To purchase a service manual, see *Service Publications Ordering Information* ⇨ *303*.

⚠ Warning

For up to 10 seconds after the vehicle is turned off and the battery is disconnected, an airbag can still inflate during improper service. You can be injured if you are close to an airbag when it inflates. Avoid yellow connectors. They are probably part of the airbag system. Be sure to follow proper service procedures, and make sure the person performing work for you is qualified to do so.

Adding Equipment to the Airbag-Equipped Vehicle

Adding accessories that change the vehicle's frame, bumper system, height, front end, or side sheet metal, may keep the airbag system from working properly. The operation of the airbag system can also be affected by changing any parts of the front seats, safety belts, airbag sensing and diagnostic module, steering wheel, instrument panel, any of the airbag modules, ceiling or pillar garnish trim, overhead console, front sensors, side impact sensors, or airbag wiring.

Your dealer and the service manual have information about the location of the airbag sensors, sensing and diagnostic module, and airbag wiring.

In addition, the vehicle has a passenger sensing system for the front outboard passenger position, which includes sensors that are part of the passenger seat. The passenger sensing system may not operate properly if the original seat trim is replaced with non-GM covers, upholstery, or trim; or with GM covers, upholstery, or trim designed for a different vehicle. Any object, such as an aftermarket seat heater or a comfort-enhancing pad or device, installed under or on top of the seat fabric, could also interfere with the operation of the passenger sensing system. This could either prevent proper deployment of the passenger airbag(s) or prevent the passenger sensing system from properly turning off the passenger airbag(s). See *Passenger Sensing System* ⇨ *67*.

If the vehicle has rollover roof-rail airbags, see *Different Size Tires and Wheels* ⇨ *250* for additional important information.

If you have to modify your vehicle because you have a disability and you have questions about whether the modifications will affect the vehicle's airbag system, or if you have questions about whether the airbag system will be affected if the vehicle is modified for any other reason, call Customer Assistance. See *Customer Assistance Offices* ⇨ *296*.

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Airbag System Check

The airbag system does not need regularly scheduled maintenance or replacement. Make sure the airbag readiness light is working. See *Airbag Readiness Light* ⇨ *105*.

Caution

If an airbag covering is damaged, opened, or broken, the airbag may not work properly. Do not open or break the airbag coverings. If there are any opened or broken airbag coverings, have the airbag covering and/or airbag module replaced. For the location of the airbags, see *Where Are the Airbags?* ⇨ *63*. See your dealer for service.

Replacing Airbag System Parts after a Crash

⚠ Warning

A crash can damage the airbag systems in the vehicle.
A damaged airbag system may not properly protect you and your passenger(s) in a crash, resulting in serious injury or even death. To help make sure the airbag systems are working properly after a crash, have them inspected and any necessary replacements made as soon as possible.

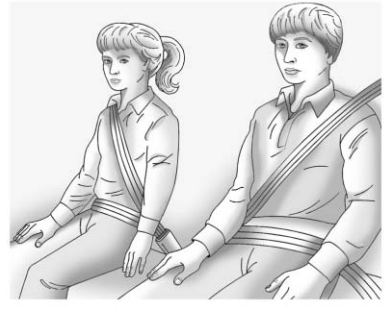
If an airbag inflates, you will need to replace airbag system parts. See your dealer for service.

If the airbag readiness light stays on after the vehicle is started or comes on when you are driving, the airbag system may not work properly. Have the vehicle serviced right away. See *Airbag Readiness Light* ⇨ *105*.

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Child Restraints

Older Children



Older children who have outgrown booster seats should wear the vehicle's safety belts.

The manufacturer instructions that come with the booster seat state the weight and height limitations for that booster. Use a booster seat with a lap-shoulder belt until the child passes the fit test below:

- Sit all the way back on the seat. Do the knees bend at the seat edge? If yes, continue. If no, return to the booster seat.
- Buckle the lap-shoulder belt. Does the shoulder belt rest on the shoulder? If yes, continue. If no, try using the rear safety belt comfort guide, if available. See “Rear Safety Belt Comfort Guides” under *Lap-Shoulder Belt* ⇨ *56*. If a comfort guide is not available, or if the shoulder belt still does not rest on the shoulder, then return to the booster seat.
- Does the lap belt fit low and snug on the hips, touching the thighs? If yes, continue. If no, return to the booster seat.
- Can proper safety belt fit be maintained for the length of the trip? If yes, continue. If no, return to the booster seat.

Q: What is the proper way to wear safety belts?

A: An older child should wear a lap-shoulder belt and get the additional restraint a shoulder belt can provide. The shoulder belt should not cross the face or neck. The lap belt should fit snugly below the hips, just touching the top of the thighs. This applies belt force to the child's pelvic bones in a crash. It should never be worn over the abdomen, which could cause severe or even fatal internal injuries in a crash.

Also see “Rear Safety Belt Comfort Guides” under *Lap-Shoulder Belt* ⇨ *56*.

According to accident statistics, children are safer when properly restrained in a rear seating position.

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In a crash, children who are not buckled up can strike other people who are buckled up, or can be thrown out of the vehicle. Older children need to use safety belts properly.

⚠ Warning

Never allow more than one child to wear the same safety belt. The safety belt cannot properly spread the impact forces. In a crash, they can be crushed together and seriously injured. A safety belt must be used by only one person at a time.



⚠ Warning

Never allow a child to wear the safety belt with the shoulder belt behind their back. A child can be seriously injured by not wearing the lap-shoulder belt properly. In a crash, the child would not be restrained by the shoulder belt. The child could move too far forward increasing the chance of head and neck injury. The child might also slide under the lap belt. The belt force would then be applied right on the abdomen.

(Continued)

Warning (Continued)

That could cause serious or fatal injuries. The shoulder belt should go over the shoulder and across the chest.



Infants and Young Children

Everyone in a vehicle needs protection! This includes infants and all other children. Neither the distance traveled nor the age and size of the traveler changes the need, for everyone, to use safety restraints. In fact, the law in every state in the United States and in every Canadian province says children up to some age must be restrained while in a vehicle.

⚠ Warning

Children can be seriously injured or strangled if a shoulder belt is wrapped around their neck. The shoulder belt can tighten but cannot be loosened if it is locked. The shoulder belt locks when it is pulled all the way out of the retractor. It unlocks when the shoulder belt is allowed to go all the way back into the retractor, but it cannot do this if it is wrapped around a child's neck. If the shoulder belt is locked and tightened around a child's neck, the only way to loosen the belt is to cut it.

Never leave children unattended in a vehicle and never allow children to play with the safety belts.

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Every time infants and young children ride in vehicles, they should have the protection provided by appropriate child restraints. Neither the vehicle's safety belt system nor its airbag system is designed for them.

Children who are not restrained properly can strike other people, or can be thrown out of the vehicle.

⚠ Warning

Never hold an infant or a child while riding in a vehicle. Due to crash forces, an infant or a child will become so heavy it is not possible to hold it during a crash. For example, in a crash at only 40 km/h (25 mph), a 5.5 kg (12 lb) infant will suddenly become a 110 kg (240 lb) force on a person's arms. An infant or child should be secured in an appropriate restraint.



⚠ Warning

Children who are up against, or very close to, any airbag when it inflates can be seriously injured or killed. Never put a rear-facing child restraint in the front outboard seat. Secure a rear-facing child restraint in a rear seat. It is also better to secure a forward-facing child restraint in a rear seat. If you must secure a forward-facing child restraint in the front outboard seat, always move the front passenger seat as far back as it will go.



Child restraints are devices used to restrain, seat, or position children in the vehicle and are sometimes called child seats or car seats.

There are three basic types of child restraints:

- Forward-facing child restraints
- Rearward-facing child restraints
- Belt-positioning booster seats

The proper child restraint for your child depends on their size, weight, and age, and also on whether the child restraint is compatible with the vehicle in which it will be used.

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For each type of child restraint, there are many different models available. When purchasing a child restraint, be sure it is designed to be used in a motor vehicle. If it is, the restraint will have a label saying that it meets federal motor vehicle safety standards. The restraint manufacturer's instructions that come with the restraint state the weight and height limitations for a particular child restraint. In addition, there are many kinds of restraints available for children with special needs.

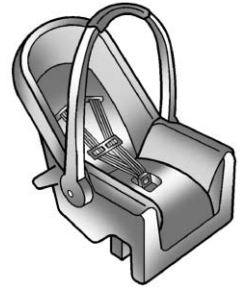
⚠ Warning

To reduce the risk of neck and head injury in a crash, infants and toddlers should be secured in a rear-facing child restraint until age two, or until they reach the maximum height and weight limits of their child restraint.

⚠ Warning

A young child's hip bones are still so small that the vehicle's regular safety belt may not remain low on the hip bones, as it should. Instead, it may settle up around the child's abdomen. In a crash, the belt would apply force on a body area that is unprotected by any bony structure. This alone could cause serious or fatal injuries. To reduce the risk of serious or fatal injuries during a crash, young children should always be secured in appropriate child restraints.

Child Restraint Systems



Rear-Facing Infant Seat

A rear-facing child restraint provides restraint with the seating surface against the back of the infant.

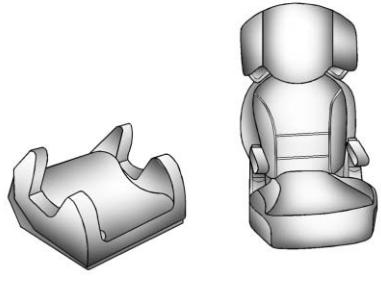
The harness system holds the infant in place and, in a crash, acts to keep the infant positioned in the restraint.

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Forward-Facing Child Seat

A forward-facing child restraint provides restraint for the child's body with the harness.



Booster Seats

A belt-positioning booster seat is used for children who have outgrown their forward-facing child restraint. Boosters are designed to improve the fit of the vehicle's safety belt system until the child is large enough for the vehicle safety belts to fit properly without a booster seat. See the safety belt fit test in *Older Children* ⇨ *73*.

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Securing an Add-On Child Restraint in the Vehicle

⚠ Warning

A child can be seriously injured or killed in a crash if the child restraint is not properly secured in the vehicle. Secure the child restraint properly in the vehicle using the vehicle's safety belt or LATCH system, following the instructions that came with that child restraint and the instructions in this manual.

To help reduce the chance of injury, the child restraint must be secured in the vehicle. Child restraint systems must be secured in vehicle seats by lap belts or the lap belt portion of a lap-shoulder belt, or by the LATCH system. See *Lower Anchors and Tethers for Children (LATCH System)* ⇨ *80* for more information. Children can be endangered in a crash if the child restraint is not properly secured in the vehicle.

When securing an add-on child restraint, refer to the instructions that come with the restraint which may be on the restraint itself or in a booklet, or both, and to this manual. The child restraint instructions are important, so if they are not available, obtain a replacement copy from the manufacturer.

Keep in mind that an unsecured child restraint can move around in a collision or sudden stop and injure people in the vehicle. Be sure to properly secure any child restraint in the vehicle — even when no child is in it.

In some areas of the United States and Canada, Certified Child Passenger Safety Technicians (CPSTs) are available to inspect and demonstrate how to correctly use and install child restraints. In the U.S., refer to the National Highway Traffic Safety Administration (NHTSA) website to locate the nearest child safety seat inspection station. For CPST availability in Canada, check with Transport Canada or the Provincial Ministry of Transportation office.

Securing the Child Within the Child Restraint

⚠ Warning

A child can be seriously injured or killed in a crash if the child is not properly secured in the child restraint. Secure the child properly following the instructions that came with that child restraint.

Where to Put the Restraint

According to accident statistics, children and infants are safer when properly restrained in an appropriate child restraint secured in a rear seating position.

Whenever possible, children aged 12 and under should be secured in a rear seating position.

Never put a rear-facing child restraint in the front. This is because the risk to the rear-facing child is so great if the airbag deploys.

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⚠ Warning

A child in a rear-facing child restraint can be seriously injured or killed if the front passenger airbag inflates. This is because the back of the rear-facing child restraint would be very close to the inflating airbag. A child in a forward-facing child restraint can be seriously injured or killed if the front passenger airbag inflates and the passenger seat is in a forward position.

Even if the passenger sensing system has turned off the front passenger frontal airbag, no system is fail-safe. No one can guarantee that an airbag will not deploy under some unusual circumstance, even though it is turned off.

Secure rear-facing child restraints in a rear seat, even if the airbag is off. If you secure a forward-facing child restraint in

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Warning (Continued)

the front seat, always move the front passenger seat as far back as it will go. It is better to secure the child restraint in a rear seat.

See *Passenger Sensing System* ⇨ *67* for additional information.

When securing a child restraint in a rear seating position, study the instructions that came with the child restraint to make sure it is compatible with this vehicle.

Child restraints and booster seats vary considerably in size, and some may fit in certain seating positions better than others.

Depending on where you place the child restraint and the size of the child restraint, you may not be able to access adjacent safety belts or LATCH anchors for additional passengers or child restraints. Adjacent seating positions should not be used if the child restraint prevents access to or interferes with the routing of the safety belt.

Wherever a child restraint is installed, be sure to follow the instructions that came with the child restraint system and secure the child restraint system properly.

Keep in mind that an unsecured child restraint can move around in a collision or sudden stop and injure people in the vehicle. Be sure to properly secure any child restraint in the vehicle — even when no child is in it.

Lower Anchors and Tethers for Children (LATCH System)

The LATCH system secures a child restraint during driving or in a crash. LATCH attachments on the child restraint are used to attach the child restraint to the anchors in the vehicle. The LATCH system is designed to make installation of a child restraint easier.

In order to use the LATCH system in your vehicle, you need a child restraint that has LATCH attachments. LATCH-compatible rear-facing and forward-facing child seats can be properly installed using either the LATCH anchors or the vehicle's safety belts. Do not use both the safety belts and the LATCH anchorage system to secure a rear-facing or forward-facing child seat.

Booster seats use the vehicle's safety belts to secure the child in the booster seat. If the manufacturer recommends that the booster seat be secured with the LATCH system, this can be done as long as the booster seat can be positioned properly and there is no interference with the proper positioning of the lap-shoulder belt on the child.

Make sure to follow the instructions that came with the child restraint, and also the instructions in this manual.

When installing a child restraint with a top tether, you must also use either the lower anchors or the safety belts to properly secure the child restraint. A child restraint must never be attached using only the top tether.

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The LATCH anchorage system can be used until the combined weight of the child plus the child restraint is 29.5 kg (65 lbs). Use the safety belt alone instead of the LATCH anchorage system once the combined weight is more than 29.5 kg (65 lbs).

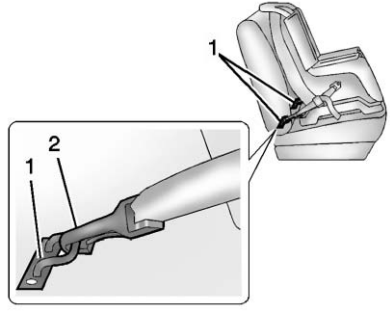
See *Securing Child Restraints (With the Safety Belt in the Rear Seat)* ⇨ *86* or *Securing Child Restraints (With the Safety Belt in the Front Seat)* ⇨ *88*.

Child restraints built after March 2014 will be labeled with the specific child weight up to which the LATCH system can be used to install the restraint.

The following explains how to attach a child restraint with these attachments in the vehicle.

Not all vehicle seating positions or child restraints have lower anchors and attachments or top tether anchors and attachments. In this case, the safety belt must be used (with top tether where available) to secure the child restraint. See *Securing Child Restraints (With the Safety Belt in the Rear Seat)* ⇨ *86* or *Securing Child Restraints (With the Safety Belt in the Front Seat)* ⇨ *88*.

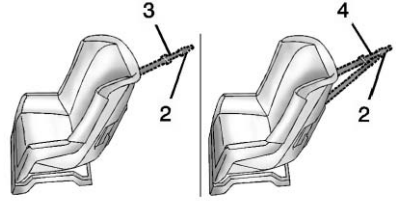
Lower Anchors



Lower anchors (1) are metal bars built into the vehicle. There are two lower anchors for each LATCH seating position that will accommodate a child restraint with lower attachments (2).

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Top Tether Anchor

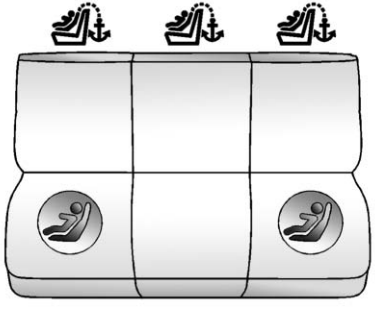


A top tether (3, 4) anchors the top of the child restraint to the vehicle. A top tether anchor is built into the vehicle. The top tether attachment (2) on the child restraint connects to the top tether anchor in the vehicle in order to reduce the forward movement and rotation of the child restraint during driving or in a crash.

Your child restraint may have a single tether (3) or a dual tether (4). Either will have a single attachment (2) to secure the top tether to the anchor.

Some child restraints that have a top tether are designed for use with or without the top tether being attached. Others require the top tether always to be attached. In Canada, the law requires that forward-facing child restraints have a top tether, and that the tether be attached. Be sure to read and follow the instructions for your child restraint.

Lower Anchor and Top Tether Anchor Locations



Rear Seat

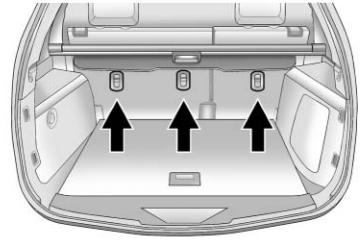
: Seating positions with top tether anchors.

: Seating positions with two lower anchors.

The rear outboard seating positions have exposed metal anchors in the crease between the seatback and the seat cushion.



To assist in locating the top tether anchors, the top tether anchor symbol is near the top tether anchors.



Top Tether Anchors

The top tether anchors for each rear seating position are on the back of the rear seatback. If equipped, the rear cargo cover might need to be adjusted to access the anchors. Be sure to use an anchor on the same side of the vehicle as the seating position where the child restraint will be placed.

Do not secure a child restraint in a position without a top tether anchor if a national or local law requires that the top tether be attached, or if the instructions that come with the child restraint say that the top tether must be attached.

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According to accident statistics, children and infants are safer when properly restrained in a child restraint system or infant restraint system secured in a rear seating position. See *Where to Put the Restraint* ⇨ *79* for additional information.

Securing a Child Restraint Designed for the LATCH System

⚠ Warning

If a LATCH-type child restraint is not attached to anchors, the child restraint will not be able to protect the child correctly. In a crash, the child could be seriously injured or killed. Install a LATCH-type child restraint properly using the anchors, or use the vehicle's safety belts to secure the restraint, following the instructions that came with the child restraint and the instructions in this manual.

⚠ Warning

To reduce the risk of serious or fatal injuries during a crash, do not attach more than one child restraint to a single anchor. Attaching more than one child restraint to a single anchor could cause the anchor or attachment to come loose or even break during a crash. A child or others could be injured.

⚠ Warning

Children can be seriously injured or strangled if a shoulder belt is wrapped around their neck. The shoulder belt can tighten but cannot be loosened if it is locked. The shoulder belt locks when it is pulled all the way out of the retractor. It unlocks when the shoulder belt is allowed to go all the way back into the retractor, but it cannot do this if it is

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Warning (Continued)

wrapped around a child's neck. If the shoulder belt is locked and tightened around a child's neck, the only way to loosen the belt is to cut it.

Buckle any unused safety belts behind the child restraint so children cannot reach them. Pull the shoulder belt all the way out of the retractor to set the lock, and tighten the belt behind the child restraint after the child restraint has been installed.

Caution

Do not let the LATCH attachments rub against the vehicle's safety belts. This may damage these parts. If necessary, move buckled safety belts to avoid rubbing the LATCH attachments.

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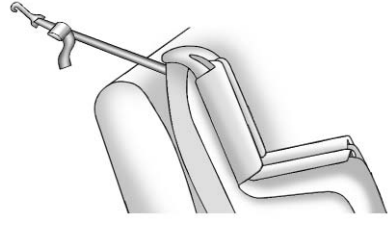
Caution (Continued)

Do not fold the rear seatback when the seat is occupied. Do not fold the empty rear seat with a safety belt buckled. This could damage the safety belt or the seat. Unbuckle and return the safety belt to its stowed position, before folding the seat.

If you need to secure more than one child restraint in the rear seat, see *Where to Put the Restraint* ⇨ *79*.

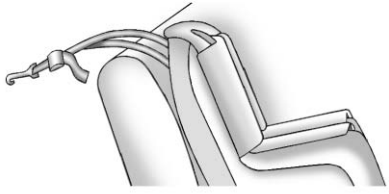
This system is designed to make installation of child restraints easier. When using lower anchors, do not use the vehicle's safety belts. Instead, use the vehicle's anchors and child restraint attachments to secure the restraints. Some restraints also use another vehicle anchor to secure a top tether.

1. Attach and tighten the lower attachments to the lower anchors. If the child restraint does not have lower attachments or the desired seating position does not have lower anchors, secure the child restraint with the top tether and the safety belts. Refer to the child restraint manufacturer instructions and the instructions in this manual.
 1.1. Find the lower anchors for the desired seating position.
 1.2. Put the child restraint on the seat.
 1.3. Attach and tighten the lower attachments on the child restraint to the lower anchors.
2. If the child restraint manufacturer recommends that the top tether be attached, attach and tighten the top tether to the top tether anchor, if equipped. Refer to the child restraint instructions and the following steps:
 2.1. Find the top tether anchor.
 2.2. Route, attach, and tighten the top tether according to your child restraint instructions and the following instructions:

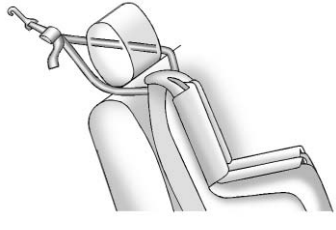


- If the position you are using does not have a headrest or head restraint and you are using a single tether, route the tether over the seatback.

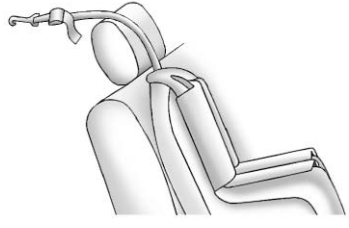
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- If the position you are using does not have a headrest or head restraint and you are using a dual tether, route the tether over the seatback.



- If the position you are using has a fixed headrest or head restraint and your are using a dual tether, raise the headrest or head restraint and route the tether under the headrest or head restraint and around the headrest or head restraint posts.



- If the position being used has a fixed headrest or head restraint and a single tether is being used, route the tether over the headrest or head restraint.

3. Before placing a child in the child restraint, make sure it is securely held in place. To check, grasp the child restraint at the LATCH path and attempt to move it side to side and back and forth. There should be no more than 2.5 cm (1 in) of movement, for proper installation.

Replacing LATCH System Parts After a Crash

⚠ Warning

A crash can damage the LATCH system in the vehicle. A damaged LATCH system may not properly secure the child restraint, resulting in serious injury or even death in a crash. To help make sure the LATCH system is working properly after a crash, see your dealer to have the system inspected and any necessary replacements made as soon as possible.

If the vehicle has the LATCH system and it was being used during a crash, new LATCH system parts may be needed.

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New parts and repairs may be necessary even if the LATCH system was not being used at the time of the crash.

Securing Child Restraints (With the Safety Belt in the Rear Seat)

When securing a child restraint in a rear seating position, study the instructions that came with the child restraint to make sure it is compatible with this vehicle.

If the child restraint has the LATCH system, see *Lower Anchors and Tethers for Children (LATCH System)* ⇨ *80* for how and where to install the child restraint using LATCH. If a child restraint is secured in the vehicle using a safety belt and it uses a top tether, see *Lower Anchors and Tethers for Children (LATCH System)* ⇨ *80* for top tether anchor locations.

Do not secure a child seat in a position without a top tether anchor if a national or local law requires that the top tether be anchored, or if the instructions that come with the child restraint say that the top strap must be anchored.

In Canada, the law requires that forward-facing child restraints have a top tether, and that the tether be attached.

If the child restraint or vehicle seat position does not have the LATCH system, you will be using the safety belt to secure the child restraint. Be sure to follow the instructions that came with the child restraint.

If more than one child restraint needs to be installed in the rear seat, be sure to read *Where to Put the Restraint* ⇨ *79*.

1. Put the child restraint on the seat.
2. Pick up the latch plate, and run the lap and shoulder portions of the vehicle's safety belt through or around the restraint. The child restraint instructions will show you how.

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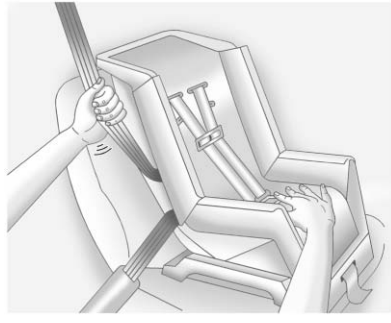


3. Push the latch plate into the buckle until it clicks.

 Position the release button on the buckle, away from the child restraint system, so that the safety belt could be quickly unbuckled if necessary.



4. Pull the shoulder belt all the way out of the retractor to set the lock. When the retractor lock is set, the belt can be tightened but not pulled out of the retractor.



5. To tighten the belt, push down on the child restraint, pull the shoulder portion of the belt to tighten the lap portion of the belt, and feed the shoulder belt back into the retractor. When installing a forward-facing child restraint, it may be helpful to use your knee to push down on the child restraint as you tighten the belt.

 Try to pull the belt out of the retractor to make sure the retractor is locked. If the retractor is not locked, repeat Steps 4 and 5.

6. If the child restraint has a top tether, follow the child restraint manufacturer's instructions regarding the use of the top tether. See *Lower Anchors and Tethers for Children (LATCH System)* ⇨ *80*.
7. Before placing a child in the child restraint, make sure it is securely held in place. To check, grasp the child restraint at the safety belt path and attempt to move it side to side and back and forth. When the child restraint is properly installed, there should be no more than 2.5 cm (1 in) of movement.

To remove the child restraint, unbuckle the vehicle safety belt and let it return to the stowed position. If the top tether is attached to a top tether anchor, disconnect it.

DEP
DEALER E-PROCESS

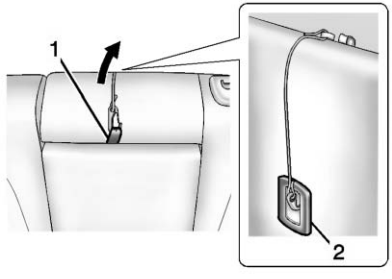
Armrest Retaining Strap

⚠ Warning

A rear center armrest that is not properly stowed and secured could fall forward during a sudden stop or collision. The armrest could contact an infant secured in a rear-facing child restraint in the center seat position. Fasten the retaining strap onto the stowed armrest before installing a rear-facing child restraint in the rear center seat position.



When new, the vehicle's glove box materials included an armrest retaining strap. Use it to secure the center armrest before installing a rear-facing child restraint in the second row center seat position.



Stow the rear seat center armrest. Attach the retaining strap to the armrest loop (1) and to the center top tether anchor on the seatback (2). Make sure the retaining strap's clips are firmly attached.

Install the rear-facing child restraint using the child restraint manufacturer's instructions and the instructions described previously.

Remove the armrest retaining strap before installing a forward facing child restraint in the center seat position, as it may interfere with the attachment of the top tether to the top tether anchor on the seatback.

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Securing Child Restraints (With the Safety Belt in the Front Seat)

This vehicle has airbags. A rear seat is a safer place to secure a forward-facing child restraint. See *Where to Put the Restraint* ⇨ *79*.

In addition, the vehicle has a passenger sensing system which is designed to turn off the front outboard passenger frontal airbag under certain conditions. See *Passenger Sensing System* ⇨ *67* and *Passenger Airbag Status Indicator* ⇨ *106* for more information, including important safety information.

Never put a rear-facing child seat in the front. This is because the risk to the rear-facing child is so great, if the airbag deploys.

⚠ Warning

A child in a rear-facing child restraint can be seriously injured or killed if the front outboard passenger frontal airbag inflates. This is because the back of the rear-facing child restraint would be very close to the inflating airbag. A child in a forward-facing child restraint can be seriously injured or killed if the front outboard passenger frontal airbag inflates and the passenger seat is in a forward position.

Even if the passenger sensing system has turned off the front outboard passenger frontal airbag, no system is fail-safe. No one can guarantee that an airbag will not deploy under some unusual circumstance, even though it is turned off.

Secure rear-facing child restraints in a rear seat, even if the airbag is off. If you secure a

(Continued)

Warning (Continued)

forward-facing child restraint in the front outboard passenger seat, always move the seat as far back as it will go. It is better to secure the child restraint in a rear seat.

See *Passenger Sensing System* ⇨ *67* for additional information.

If the child restraint uses a top tether, see *Lower Anchors and Tethers for Children (LATCH System)* ⇨ *80* for top tether anchor locations.

Do not secure a child seat in a position without a top tether anchor if a national or local law requires that the top tether be anchored, or if the instructions that come with the child restraint say that the top strap must be anchored.

In Canada, the law requires that forward-facing child restraints have a top tether, and that the tether be attached.

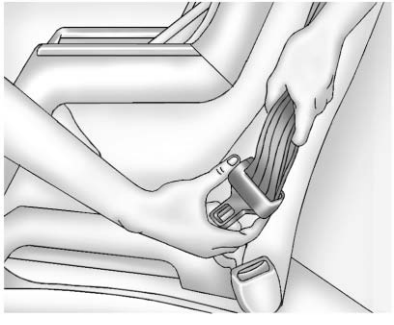
When using the lap-shoulder belt to secure the child restraint in this position, follow the instructions that came with the child restraint and the following instructions:

1. Move the seat as far back as it will go before securing the forward-facing child restraint. Move the seat upward or the seatback to an upright position, if needed, to get a tight installation of the child restraint.

 When the passenger sensing system has turned off the front outboard passenger frontal airbag, the off indicator on the passenger airbag status indicator should light and stay lit when you start the vehicle. See *Passenger Airbag Status Indicator* ⇨ *106*.
2. Put the child restraint on the seat.
3. Pick up the latch plate, and run the lap and shoulder portions of the vehicle's safety belt

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through or around the restraint. The child restraint instructions will show you how.



Tilt the latch plate to adjust the belt if needed.



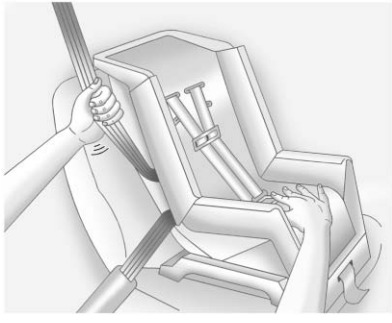
4. Push the latch plate into the buckle until it clicks.

 Position the release button on the buckle, away from the child restraint system, so that the safety belt could be quickly unbuckled if necessary.



5. Pull the shoulder belt all the way out of the retractor to set the lock. When the retractor lock is set, the belt can be tightened but not pulled out of the retractor.

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6. To tighten the belt, push down on the child restraint, pull the shoulder portion of the belt to tighten the lap portion of the belt, and feed the shoulder belt back into the retractor. When installing a forward-facing child restraint, it may be helpful to use your knee to push down on the child restraint as you tighten the belt.

 Try to pull the belt out of the retractor to make sure the retractor is locked. If the retractor is not locked, repeat Steps 5 and 6.

7. Before placing a child in the child restraint, make sure it is securely held in place. To check, grasp the child restraint at the safety belt path and attempt to move it side to side and back and forth. When the child restraint is properly installed, there should be no more than 2.5 cm (1 in) of movement.

If the airbag is off, the off indicator in the passenger airbag status indicator will come on and stay on when the vehicle is started.

If a child restraint has been installed and the on indicator is lit, see “If the On Indicator is Lit for a Child Restraint” under *Passenger Sensing System* ⇨ *67*.

To remove the child restraint, unbuckle the vehicle safety belt and let it return to the stowed position.

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Storage Compartments

⚠ Warning

Do not store heavy or sharp objects in storage compartments. In a crash, these objects may cause the cover to open and could result in injury.

Glove Box

Open the glove box by lifting up on the lever.

Cupholders

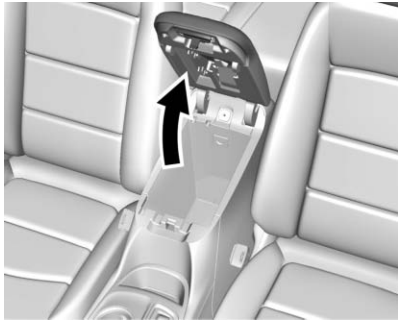
Two cupholders are in the center console. Cupholders may be located in the second row seat armrest. To access, pull the armrest down.

Center Console Storage



There is storage in the center console; lift the lever on the front to open.

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There is an accessory power outlet inside. There may also be a USB port and an auxiliary input jack inside.

Additional Storage Features

Cargo Cover

⚠ Warning

An unsecured cargo cover could strike people in a sudden stop or turn, or in a crash. Store the cargo cover securely or remove it from the vehicle.

⚠ Warning

Do not place objects on the cargo cover. Sudden stops or turns can cause objects to be thrown in the vehicle. You or others could be injured.

For vehicles with a cargo cover, use it to cover items in the rear of the vehicle.

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To remove the cover from the vehicle, pull both ends toward each other. To reinstall, place each end of the cover in the holes behind the rear seat.

Cargo Tie-Downs



The vehicle may be equipped with four cargo tie-downs located in the rear compartment.

Convenience Net

This vehicle may have a convenience net in the rear of the vehicle. Attach it to the cargo tie-downs for storing small loads.

Do not use the net to store heavy loads.

Roof Rack System

⚠ Warning

If something is carried on top of the vehicle that is longer or wider than the roof rack — like paneling, plywood, or a mattress — the wind can catch it while the vehicle is being driven. The item being carried could be violently torn off, and this could cause a collision and damage the vehicle. Never carry something longer or wider than the roof rack on top of the vehicle unless using a GM certified accessory carrier.

If equipped, the roof rack can be used to load items. For roof racks that do not have crossrails included, GM certified crossrails can be purchased as an accessory. See your dealer.

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Caution

Loading cargo on the roof rack that weighs more than 100 kg (220 lb) or hangs over the rear or sides of the vehicle may damage the vehicle. Load cargo so that it rests evenly between the crossrails, making sure to fasten cargo securely.



To prevent damage or loss of cargo when driving, check to make sure crossrails and cargo are securely fastened. Loading cargo on the roof rack will make the vehicle's center

of gravity higher. Avoid high speeds, sudden starts, sharp turns, sudden braking, or abrupt maneuvers; otherwise it may result in loss of control. If driving for a long distance, on rough roads, or at high speeds, occasionally stop the vehicle to make sure the cargo remains in its place. Do not exceed the maximum vehicle capacity when loading the vehicle. For more information on vehicle capacity and loading, see *Vehicle Load Limits ⇨ 160*.

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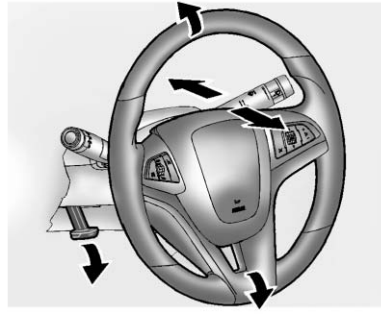
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Controls

Steering Wheel Adjustment



To adjust the steering wheel:

1. Pull the lever down.
2. Move the steering wheel up or down.
3. Pull or push the steering wheel closer or away from you.
4. Pull the lever up to lock the steering wheel in place.

Do not adjust the steering wheel while driving.

Steering Wheel Controls

The infotainment system can be operated by using the steering wheel controls. See "Steering Wheel Controls" in the infotainment manual.

Horn

Press on the steering wheel pad to sound the horn.

Windshield Wiper/Washer



The windshield wiper/washer lever is on the right side of the steering column. With the ignition in ACC/ ACCESSORY or ON/RUN/START, move the windshield wiper lever to select the wiper speed.

HI : Use for fast wipes.

LO : Use for slow wipes.

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INT : Move the lever up to INT for intermittent wipes, then turn the INT band up for more frequent wipes or down for less frequent wipes.



OFF : Use to turn the wipers off.

1X : For a single wipe, briefly move the wiper lever down. For several wipes, hold the wiper lever down.

FRONT : Pull the windshield wiper lever toward you to spray windshield washer fluid and activate the wipers. The wipers will continue until the lever is released or the maximum wash time is reached. When the windshield wiper lever is released, additional wipes may occur depending on how long the windshield washer had been activated. See *Washer Fluid* ⇨ *220* for information on filling the windshield washer fluid reservoir.

⚠ Warning

In freezing weather, do not use the washer until the windshield is warmed. Otherwise the washer fluid can form ice on the windshield, blocking your vision.

Clear snow and ice from the wiper blades before using them. If frozen to the windshield, carefully loosen or thaw them. Damaged blades should be replaced. See *Wiper Blade Replacement* ⇨ *224*.

Heavy snow or ice can overload the wiper motor.

Wiper Parking

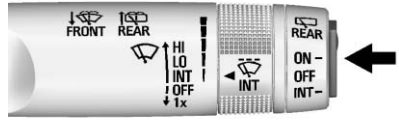
If the ignition is turned to LOCK/ OFF while the wipers are on LO, HI, or INT, they will immediately stop.

If the windshield wiper lever is then moved to OFF before the driver door is opened or within 10 minutes, the wipers will restart and move to the base of the windshield.

If the ignition is turned to LOCK/ OFF while the wipers are performing wipes due to windshield washing, the wipers continue to run until they reach the base of the windshield.

Rear Window Wiper/ Washer

The rear wiper controls are on the end of the windshield wiper lever.



ON : Press the upper portion of the button for continuous rear window wipes.

OFF : The rear wiper turns off when the button is returned to the middle position.

INT : Press the lower portion of the button to set a delay between wipes.

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REAR : Push the windshield wiper lever forward to spray washer fluid on the rear window. The lever returns to its starting position when released.

Rear Wiper Arm Assembly Protection

When using an automatic car wash, move the rear wiper control to OFF. This disables the rear wiper.

If the transmission is in N (Neutral) and the vehicle speed is very slow, the rear wiper will automatically stop at the base of the rear window.

The wiper operations return to normal when the transmission is no longer in N (Neutral) or the vehicle speed has increased.

The windshield washer reservoir is used for the windshield and the rear window. Check the fluid level in the reservoir if either washer is not working. See *Washer Fluid* ⇨ *220*.

Compass

The vehicle may have a compass display in the Driver Information Center (DIC). The compass receives its heading and other information from the Global Positioning System (GPS) antenna, StabiliTrak, and vehicle speed information.

Avoid covering the GPS antenna, located on the roof, for long periods of time with objects that may interfere with the antenna's ability to receive a satellite signal. The compass system is designed to operate for a certain number of miles or degrees of turn before needing a signal from the GPS satellites. When the compass display shows CAL, drive the vehicle for a short distance in an open area where it can receive a GPS signal. The compass system will automatically determine when the GPS signal is restored and provide a heading again.

Clock

The infotainment system controls are used to access the time and date settings through the menu system. See “Using the System” in the infotainment manual.

Setting the Clock Using the Faceplate

To set the time and date:

1. Turn the infotainment system on.
2. Press the CONFIG button and select Time and Date, or press the ◴ button.
3. Select Set Time or Set Date.
4. Turn the MENU/SEL knob to adjust the highlighted value.
5. Press the MENU/SEL knob to select the next value.
6. To save the settings and return to the Time and Date menu, press ⟸ BACK.

To set the 12/24 hour format:

1. Turn the infotainment system on.
2. Press the CONFIG button and select Time and Date, or press the ◴ button.
3. Highlight 12 hr/24 hr Format.

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4. Press the MENU/SEL knob and select the 12 Hour or 24 Hour display format.

Setting the Clock Using the Touchscreen

If Automatic Clock Update is selected, Set Time and Set Date will not be available.

To set the time and date:

1. Touch CONFIG.
2. Touch Time and Date.
3. Touch Set Time or Set Date.
4. Touch + or − to decrease or increase the Hours and Minutes, or Year, Month, and Day.
5. Touch Back to return to the previous screen.

12/24 HR Format : Touch 12 Hour for standard time; touch 24 Hour for military time.

Power Outlets

The accessory power outlets can be used to connect electrical equipment, such as a cell phone or MP3 player.

There are four accessory power outlets: inside the open storage area in front of the shift lever, inside the center console storage, on the rear of the center console storage, and in the rear cargo compartment.

To use the outlets, remove the cover and close when not in use.

Caution
Leaving electrical equipment plugged in for an extended period of time while the vehicle is off will drain the battery. Power is always supplied to the rear cargo outlet. Always unplug electrical equipment when not in use and do not plug in equipment that exceeds the maximum 20 ampere rating.

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Certain accessory plugs may not be compatible with the accessory power outlets and could overload vehicle and adapter fuses. If a problem is experienced, see your dealer.

When adding electrical equipment, be sure to follow the installation instructions included with the equipment. See *Add-On Electrical Equipment* ⇨ *200*.

Caution
Hanging heavy equipment from the power outlet can cause damage not covered by the vehicle warranty. The power outlets are designed for accessory power plugs only, such as cell phone charge cords.

Warning Lights, Gauges, and Indicators

Warning lights and gauges can signal that something is wrong before it becomes serious enough to cause an expensive repair or replacement. Paying attention to the warning lights and gauges could prevent injury.

Some warning lights come on briefly when the engine is started to indicate they are working. When one of the warning lights comes on and stays on while driving, or when one of the gauges shows there may be a problem, check the section that explains what to do. Waiting to do repairs can be costly and even dangerous.

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Instrument Cluster



English Shown, Metric Similar

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Speedometer

The speedometer shows the vehicle's speed in either kilometers per hour (km/h) or miles per hour (mph).

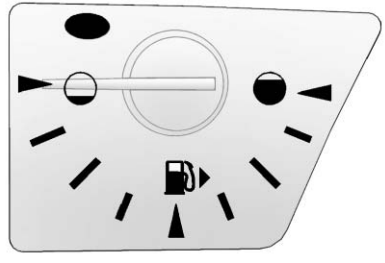
Odometer

The odometer shows how far the vehicle has been driven, in either kilometers or miles.

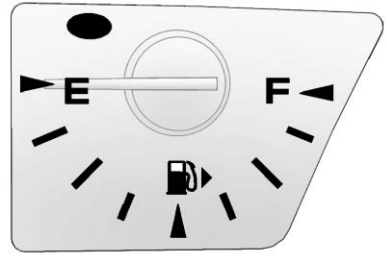
Tachometer

The tachometer displays the engine speed in revolutions per minute (rpm).

Fuel Gauge



Metric



English

When the ignition is on, the fuel gauge shows about how much fuel the vehicle has left in the fuel tank.

An arrow on the fuel gauge indicates the side of the vehicle the fuel door is on.

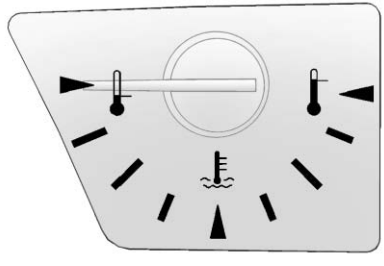
The gauge will first indicate empty before the vehicle is out of fuel and the low fuel light comes on, but the vehicle's fuel tank should be filled soon.

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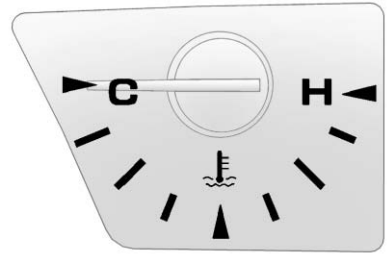
Here are some situations that can occur with the fuel gauge. None of these indicate a problem with the fuel gauge.

- At the service station, the fuel pump shuts off before the gauge reads full.
- It takes a little more or less fuel to fill up than the gauge indicated. For example, the gauge may have indicated the tank was half full, but it actually took a little more or less than half the tank's capacity to fill the tank.
- The gauge moves a little while turning a corner or speeding up.
- The gauge takes a few seconds to stabilize after the ignition is turned on, and goes back to empty when the ignition is turned off.

Engine Coolant Temperature Gauge



Metric



English

This gauge measures the temperature of the vehicle's engine.

If the indicator needle moves to the hot side of the gauge toward the colored line, the engine is too hot.

If the vehicle has been operated under normal driving conditions, pull off the road, stop the vehicle, and turn off the engine as soon as possible.

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Safety Belt Reminders

Driver Safety Belt Reminder Light

There is a driver safety belt reminder light on the instrument cluster.



When the vehicle is started, this light flashes and a chime may come on to remind the driver to fasten their safety belt. Then the light stays on solid until the belt is buckled. This cycle may continue several times if the driver remains or becomes unbuckled while the vehicle is moving.

If the driver safety belt is buckled, neither the light nor the chime comes on.

Passenger Safety Belt Reminder Light

There is a passenger safety belt reminder light near the passenger airbag status indicator. See *Passenger Sensing System* ⇨ *67*.



When the vehicle is started, this light flashes and a chime may come on to remind passengers to fasten their safety belt. Then the light stays on solid until the belt is buckled. This cycle continues several times if the passenger remains or becomes unbuckled while the vehicle is moving.

If the passenger safety belt is buckled, neither the chime nor the light comes on.

The front passenger safety belt reminder light and chime may turn on if an object is put on the seat such as a briefcase, handbag, grocery bag, laptop, or other electronic device. To turn off the reminder light and/or chime, remove the object from the seat or buckle the safety belt.

Airbag Readiness Light

This light shows if there is an electrical problem with the airbag system. The system check includes the airbag sensor(s), the passenger sensing system, the pretensioners, the airbag modules, the wiring, and the crash sensing and diagnostic module. For more information on the airbag system, see *Airbag System* ⇨ *62*.



The airbag readiness light comes on for several seconds when the vehicle is started. If the light does not come on then, have it fixed immediately.

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⚠ Warning

If the airbag readiness light stays on after the vehicle is started or comes on while driving, it means the airbag system might not be working properly. The airbags in the vehicle might not inflate in a crash, or they could even inflate without a crash. To help avoid injury, have the vehicle serviced right away.

If there is a problem with the airbag system, a Driver Information Center (DIC) message may also come on. See *Airbag System Messages* ⇨ *123*.

Passenger Airbag Status Indicator

The vehicle has a passenger sensing system. See *Passenger Sensing System* ⇨ *67* for important safety information. The overhead console has a passenger airbag status indicator.



United States



Canada and Mexico

When the vehicle is started, the passenger airbag status indicator will light ON and OFF, or the symbol for on and off, for several seconds as a system check. Then, after several more seconds, the status indicator will light either ON or OFF, or either the on or off symbol to let you know the status of the front outboard passenger frontal airbag.

If the word ON or the on symbol is lit on the passenger airbag status indicator, it means that the front outboard passenger frontal airbag is allowed to inflate.

If the word OFF or the off symbol is lit on the passenger airbag status indicator, it means that the passenger sensing system has turned off the front outboard passenger frontal airbag.

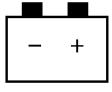
If, after several seconds, both status indicator lights remain on, or if there are no lights at all, there may be a problem with the lights or the passenger sensing system. See your dealer for service.

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⚠ Warning

If the airbag readiness light ever comes on and stays on, it means that something may be wrong with the airbag system. To help avoid injury to yourself or others, have the vehicle serviced right away. See *Airbag Readiness Light* ⇨ *105* for more information, including important safety information.

Charging System Light



The charging system light comes on briefly when the ignition is turned on, but the engine is not running, as a check to show the light is working. The light turns off when the engine is started. If it does not, have the vehicle serviced by your dealer.

If the light stays on, or comes on while driving, there may be a problem with the electrical charging system. Have it checked by your dealer. Driving while this light is on could drain the battery.

When this light comes on, the Driver Information Center (DIC) also displays a message.

See *Battery Voltage and Charging Messages* ⇨ *118*.

If a short distance must be driven with the light on, be sure to turn off all accessories, such as the radio and air conditioner.

Malfunction Indicator Lamp (Check Engine Light)

This light is part of the vehicle's emission control on-board diagnostic system. If this light is on while the engine is running, a malfunction has been detected and the vehicle may require service. The light should come on to show that it is working when the ignition is in ON/RUN and the engine is not running. See *Ignition Positions* ⇨ *164*.



Malfunctions are often indicated by the system before any problem is noticeable. Being aware of the light and seeking service promptly when it comes on may prevent damage.

Caution

If the vehicle is driven continually with this light on, the emission control system may not work as well, the fuel economy may be lower, and the vehicle may not run smoothly. This could lead to costly repairs that might not be covered by the vehicle warranty.

DEP
DEALER E-PROCESS

Caution

Modifications to the engine, transmission, exhaust, intake, or fuel system, or the use of replacement tires that do not meet the original tire specifications, can cause this light to come on. This could lead to costly repairs not covered by the vehicle warranty. This could also affect the vehicle's ability to pass an Emissions Inspection/ Maintenance test. See *Accessories and Modifications* ⇨ *202*.

If the light is flashing : A malfunction has been detected that could damage the emission control system and increase vehicle emissions. Diagnosis and service may be required.

To help prevent damage, reduce vehicle speed and avoid hard accelerations and uphill grades. If towing a trailer, reduce the amount of cargo being hauled as soon as possible.

If the light continues to flash, find a safe place to park. Turn the vehicle off and wait at least 10 seconds before restarting the engine. If the light is still flashing, follow the previous guidelines and see your dealer for service as soon as possible.

If the light is on steady : A malfunction has been detected. Diagnosis and service may be required.

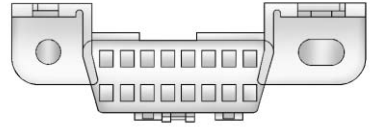
Check the following:

- A loose or missing fuel cap may cause the light to come on. See *Filling the Tank* ⇨ *192*. A few driving trips with the cap properly installed may turn the light off.
- Poor fuel quality can cause inefficient engine operation and poor driveability, which may go away once the engine is warmed up. If this occurs, change the fuel brand. It may require at least one full tank of the proper fuel to turn the light off. See *Fuel* ⇨ *190*.

If the light remains on, see your dealer.

Emissions Inspection and Maintenance Programs

If the vehicle requires an Emissions Inspection/Maintenance test, the test equipment will likely connect to the vehicle's Data Link Connector (DLC).



The DLC is under the instrument panel to the left of the steering wheel. Connecting devices that are not used to perform an Emissions Inspection/Maintenance test or to service the vehicle may affect vehicle operation. See *Add-On Electrical Equipment* ⇨ *200*. See your dealer if assistance is needed.

DEALER E-PROCESS

The vehicle may not pass inspection if:

- The light is on when the engine is running.
- The light does not come on when the ignition is in ON/RUN while the engine is off.
- Critical emission control systems have not been completely diagnosed. If this happens, the vehicle would not be ready for inspection and might require several days of routine driving before the system is ready for inspection. This can happen if the 12-volt battery has recently been replaced or run down, or if the vehicle has been recently serviced.

See your dealer if the vehicle will not pass or cannot be made ready for the test.

Brake System Warning Light

The vehicle brake system consists of two hydraulic circuits. If one circuit is not working, the remaining circuit can still work to stop the vehicle. For normal braking performance, both circuits need to be working



Metric



English

This light should come on briefly when the engine is started. If it does not come on then, have it fixed so it will be ready to warn you if there is a problem.

When the ignition is on, the brake system warning light comes on when the parking brake is set. The light stays on if the parking brake does not fully release. If it stays on after the parking brake is fully released, there is a brake problem. Have the brake system inspected immediately.

DEP
DEALER E-PROCESS

⚠ Warning

The brake system might not be working properly if the brake system warning light is on. Driving with the brake system warning light on can lead to a crash. If the light is still on after the vehicle has been pulled off the road and carefully stopped, have the vehicle towed for service.

If the light comes on while driving, a chime sounds. Pull off the road and stop. The pedal might be harder to push or go closer to the floor. It might also take longer to stop. If the light is still on, have the vehicle towed for service. See *Towing the Vehicle* ⇨ *265*.

Antilock Brake System (ABS) Warning Light



For vehicles with the Antilock Brake System (ABS), this light comes on briefly when the engine is started.

If the light does not come on, have it fixed so it will be ready to warn if there is a problem.

If the ABS light comes on and stays on while driving, stop as soon as possible and turn the ignition off. Start the engine again to reset the system. If the light stays on after driving at a speed above 20 km/h (13 mph), see your dealer for service. A chime may also sound when the light comes on steady.

If the regular brake system warning light is not on, the vehicle still has brakes, but not antilock brakes. If the regular brake system warning light is also on, the vehicle does not have antilock brakes and there is a problem with the regular brakes. See *Brake System Warning Light* ⇨ *109*.

See *Brake System Messages* ⇨ *118* for all brake-related DIC messages.

Lane Departure Warning (LDW) Light



If equipped, this light, located in the center of the instrument panel, comes on briefly while starting the vehicle.

If it does not come on, have the vehicle serviced.

This light is green if LDW is on and ready to operate.

DEP
DEALER E-PROCESS

This light changes to amber and flashes to indicate that the lane marking has been crossed without using a turn signal in that direction.

See *Lane Departure Warning (LDW)* ⇨ *188*.

Forward Collision Alert (FCA) Warning Light

If equipped, this light is on the center of the instrument panel.



The red forward collision alert comes on and flashes when a vehicle is being approached too rapidly.

The forward collision alert stays on when following a vehicle much too closely.

See *Forward Collision Alert (FCA) System* ⇨ *184*.

Vehicle Ahead Indicator



If equipped, this indicator will display green when a vehicle is detected ahead

See *Forward Collision Alert (FCA) System* ⇨ *184*.

Traction Off Light



This light comes on briefly while starting the engine. If it does not, have the vehicle serviced by your dealer. If the system is working normally, the indicator light then turns off.

The traction off light comes on when the Traction Control System (TCS) has been turned off by pressing and releasing the TCS/StabiliTrak button.

This light and the StabiliTrak OFF light come on when StabiliTrak is turned off.

If the TCS is off, wheel spin is not limited. Adjust driving accordingly.

See *Traction Control/Electronic Stability Control* ⇨ *176*.

StabiliTrak® OFF Light



This light comes on briefly while starting the vehicle. If it does not, have the vehicle serviced by your dealer.

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DEALER E-PROCESS

This light comes on when the StabiliTrak system is turned off. If StabiliTrak is off, the Traction Control System (TCS) is also off.

If the StabiliTrak and TCS are off, the system does not assist in controlling the vehicle. Turn on the TCS and the StabiliTrak systems and the warning light turns off.

See *Traction Control/Electronic Stability Control* ⇨ *176*.

Traction Control System (TCS)/StabiliTrak® Light



This light comes on briefly when the engine is started.

If the light does not come on, have the vehicle serviced by your dealer. If the system is working normally, the indicator light turns off.

If the light is on and not flashing, the TCS and potentially the StabiliTrak system have been disabled.
A Driver Information Center (DIC) message may display. Check the DIC messages to determine which feature(s) is no longer functioning and whether the vehicle requires service. See *Ride Control System Messages* ⇨ *122*.

If the light is on and flashing, the TCS and/or the StabiliTrak system is actively working.

See *Traction Control/Electronic Stability Control* ⇨ *176*.

Tire Pressure Light



For vehicles with the Tire Pressure Monitor System (TPMS), this light comes on briefly when the engine is started. It provides information about tire pressures and the TPMS.

When the Light Is On Steady

This indicates that one or more of the tires are significantly underinflated.

A Driver Information Center (DIC) tire pressure message may also display. See *Tire Messages* ⇨ *123*. Stop as soon as possible, and inflate the tires to the pressure value shown on the Tire and Loading Information label. See *Tire Pressure* ⇨ *242*.

When the Light Flashes First and Then Is On Steady

If the light flashes for about a minute and then stays on, there may be a problem with the TPMS. If the problem is not corrected, the light will come on at every ignition cycle. See *Tire Pressure Monitor Operation* ⇨ *244*.

Engine Oil Pressure Light

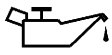
Oil pressure can vary with engine speed, outside temperature, and oil viscosity.

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DEALER E-PROCESS

On some models, the oil pump will vary engine oil pressure according to engine needs. Oil pressure may change quickly as the engine speed or load varies. This is normal. If the oil pressure warning light or Driver Information Center (DIC) message indicates oil pressure outside the normal operating range, check the vehicle's oil as soon as possible. See *Engine Oil Messages* ⇨ *120*.

Caution

Lack of proper engine oil maintenance can damage the engine. Driving with the engine oil low can also damage the engine. The repairs would not be covered by the vehicle warranty. Check the oil level as soon as possible. Add oil if required, but if the oil level is within the operating range and the oil pressure is still low, have the vehicle serviced. Always follow the maintenance schedule for changing engine oil.



This light should come on briefly as the engine is started. If it does not come on, have the vehicle serviced by your dealer.

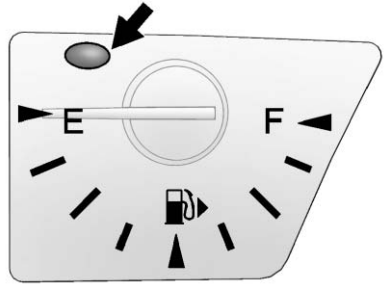
If the light comes on and stays on, it means that oil is not flowing through the engine properly. The vehicle could be low on oil and might have some other system problem. See your dealer.

Fuel Economy Light



For vehicles with the Fuel Economy Mode light, it comes on when the eco (economy) button near the shift lever is pressed. For vehicles with a Driver Information Center (DIC) an ECO MODE ON message displays. See *Fuel System Messages* ⇨ *120*. Press the button again to turn off the light and exit the fuel saver mode.

Low Fuel Warning Light



English Shown, Metric Similar

This light comes on for a few seconds when the ignition is turned on as a check to indicate it is working. If it does not come on, have it fixed.

The low fuel warning light is a circle located on the fuel gauge. This light comes on and a chime sounds periodically when the vehicle is low on fuel. The light goes off when fuel is added to the fuel tank.

For vehicles with a Driver Information Center (DIC), see *Fuel System Messages* ⇨ *120* for more information.

Security Light



The security light should come on briefly as the engine is started. If it does not come on, have the vehicle serviced by your dealer. If the system is working normally, the indicator light turns off.

If the light stays on and the engine does not start, there could be a problem with the theft-deterrent system. See *Immobilizer Operation* ⇨ *39*.

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High-Beam On Light



The high-beam on light comes on when the high-beam headlamps are in use.

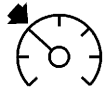
See *Headlamp High/Low-Beam Changer* ⇨ *134* for more information.

Lamps On Reminder



For vehicles with the lamps on reminder light, it comes on when the lights are in use.

Cruise Control Light



For vehicles with cruise control, the cruise control light is white when the cruise control is on and ready, and turns green when the cruise control is set and active.

The light turns off when the cruise control is turned off. See *Cruise Control* ⇨ *178*.

Information Displays

Driver Information Center (DIC)

The vehicle may have a DIC. It displays information about the vehicle and warning messages if there is a system problem detected. DIC messages display in the center of the instrument cluster. See *Vehicle Messages* ⇨ *118*.

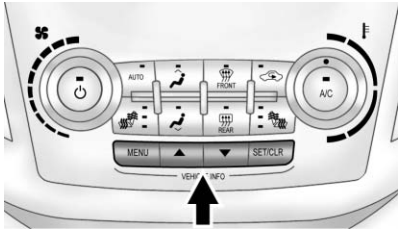
The vehicle may also have features that can be customized through the controls on the radio. See *Vehicle Personalization* ⇨ *124*.

DIC Operation and Displays

Use the DIC buttons in the center of the instrument panel to access different displays. The DIC displays trip, fuel, vehicle system information, and warning messages. It also shows the shift lever position, the odometer, and the direction the vehicle is driving.

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DIC Buttons



MENU : Press this button to get to the Trip/Fuel Menu and the Vehicle Information Menu.

▲ or ▼ : Use these buttons to scroll through the items in each menu. A small marker will move along the page as you scroll through the items. This shows where each page is in the menu.

SET/CLR : Use this button to set or clear the menu item when it is displayed.

Trip/Fuel Menu Items

Press the MENU button until Trip/Fuel Information Menu is displayed. Then press ▼ to scroll through the following menu items:

- Digital Speedometer
- Trip 1
- Trip 2
- Fuel Range
- Average Fuel Economy
- Best Average Fuel Economy
- Average Vehicle Speed
- Timer
- Navigation
- Blank Display

Digital Speedometer

The speedometer shows how fast the vehicle is moving in either kilometers per hour (km/h) or miles per hour (mph). The speedometer cannot be reset.

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Trip 1 and Trip 2

This display shows the current distance traveled, in either kilometers (km) or miles (mi), since the last reset for the trip odometer. The trip odometer can be reset to zero by pressing SET/CLR while the trip odometer display is showing.

Fuel Range

This display shows the approximate distance the vehicle can be driven without refueling. The fuel range estimate is based on an average of the vehicle's fuel economy over recent driving history and the amount of fuel remaining in the fuel tank. Fuel range cannot be reset.

Average Fuel Economy

This display shows the approximate average liters per 100 kilometers (L/100 km) or miles per gallon (mpg). This number is calculated based on the number of L/100 km (mpg) recorded since the last time this menu item was reset. This number reflects only the approximate average fuel economy that the vehicle has right now, and will

change as driving conditions change. The fuel economy can be reset by pressing SET/CLR while the Average Fuel Economy display is showing. The display may not reset to zero.

Best Average Fuel Economy

The right hand side displays the best average fuel economy (AFE) that is achieved for a selected distance. The left hand side displays a running average of fuel economy for the most recently traveled selected distance. The center of the Best AFE menu includes a digital readout and bar graph to show the instantaneous fuel economy. Quickly press the SET/CLR button to display a page for selecting one of the distance options. Move the up/down arrow to choose the selection, and SET/CLR to change the setting.

When viewing best AFE, a several second press and hold of SET/CLR will reset the best value. The best value will show "- - -" until the selected distance has been traveled.

The display provides feedback on how current driving behavior in the bar graph affects the running average in the left display and how well recent driving compares to the best that has been achieved.

Average Vehicle Speed

This display shows the average speed of the vehicle in kilometers per hour (km/h) or miles per hour (mph). This average is calculated based on the various vehicle speeds recorded since the last reset of this value. The average speed can be reset by pressing SET/CLR while the Average Vehicle Speed display is showing.

Timer

This display can be used as a timer. To start the timer, press SET/CLR while Timer is displayed. The display will show the amount of time that has passed since the timer was last reset, not including time the ignition is off. Time will continue to be counted as long as the ignition is on, even if another display is being shown on the DIC. The timer will record up to 99 hours, 59 minutes and 59 seconds (99:59:59) after which the display will return to zero. To stop the timer, press SET/CLR briefly while Timer is displayed. To reset the timer to zero, press and hold SET/CLR.

Navigation

This display is used for the OnStar or Navigation System Turn-by-Turn guidance, if equipped. See *OnStar Overview* ⇨ *308* or the infotainment manual, if equipped.

Blank Display

This display shows no information.

Vehicle Information Menu Items

Press the MENU button until Vehicle Information Menu is displayed. Then press ▼ to scroll through the following menu items:

- Unit
- Tire Pressure
- Remaining Oil Life
- Blank Display

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Unit

Press SET/CLR to enter the unit menu. Then press ▲ or ▼ to switch between METRIC or US when the Unit display is active. Press SET/CLR to confirm the setting. This will change the displays on the cluster and DIC to either metric or English (US) measurements.

Tire Pressure

The display will show a vehicle with the approximate pressures of all four tires. Tire pressure is displayed in either kilopascal (kPa) or in pounds per square inch (psi).

See *Tire Pressure Monitor System* ⇨ *243* and *Tire Pressure Monitor Operation* ⇨ *244*.

Remaining Oil Life

This display shows an estimate of the oil's remaining useful life. If REMAINING OIL LIFE 99% is displayed, that means 99% of the current oil life remains.

When the remaining oil life is low, the CHANGE ENGINE OIL SOON message will appear on the display. See *Engine Oil Messages* ⇨ *120*. The oil should be changed as soon as possible. See *Engine Oil* ⇨ *208*. In addition to the engine oil life system monitoring the oil life, additional maintenance is recommended in the Maintenance Schedule in this manual. See *Maintenance Schedule* ⇨ *279*.

Remember, the Oil Life display must be reset after each oil change. It will not reset itself. Also, be careful not to reset the Oil Life display accidentally at any time other than when the oil has just been changed. It cannot be reset accurately until the next oil change. To reset the engine oil life system, press SET/CLR while the Oil Life display is active. The display will ask for confirmation of a reset. Press ▲ or ▼ to select Yes or No. Then press SET/CLR to confirm the selection. See *Engine Oil Life System* ⇨ *211*.

Blank Display

This display shows no information.

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Compass

The vehicle may have a compass in the Driver Information Center (DIC). See *Compass* ⇨ *99*.

Vehicle Messages

Messages are displayed on the DIC to notify the driver that the status of the vehicle has changed and that some action may be needed by the driver to correct the condition. Multiple messages may appear one after another.

Some messages may not require immediate action, but you can press SET/CLR to acknowledge that you received the messages and to clear them from the display. Some messages cannot be cleared from the DIC display because they are more urgent. These messages require action before they can be cleared. You should take any messages that appear on the display seriously and remember that clearing the messages will only make the messages disappear, not correct the problem. You will find the possible messages that can be displayed and some information about them grouped by subject in the following information.

Battery Voltage and Charging Messages

BATTERY SAVER ACTIVE

This message displays when the vehicle has detected that the battery voltage is dropping beyond a reasonable point. The battery saver system starts reducing features of the vehicle that may be noticed. At the point that features are disabled, this message displays. Turn off unnecessary accessories to allow the battery to recharge.

LOW BATTERY

This message is displayed when the battery voltage is low. See *Battery - North America* ⇨ *222*.

SERVICE BATTERY CHARGING SYSTEM

This message is displayed when there is a fault in the battery charging system. Take the vehicle to your dealer for service.

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Brake System Messages

BRAKE FLUID LOW

This message is displayed when the brake fluid level is low; see *Brake Fluid* ⇨ *221*.

RELEASE PARKING BRAKE

This message is displayed as a reminder that the parking brake is on. Release it before you attempt to drive.

Compass Messages

CAL

This message is displayed when the compass needs to be calibrated. See *Compass* ⇨ *99*.

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Dashes will be displayed if the compass needs service. See your dealer for service.

Cruise Control Messages

APPLY BRAKE BEFORE CRUISE

If this message displays when attempting to activate cruise control, apply the brake pedal and try again.

CRUISE SET TO XXX

This message displays when the cruise control is set and shows the speed it was set to. See *Cruise Control* ⇨ *178*.

Door Ajar Messages

DOOR OPEN

A door open symbol will be displayed on the DIC showing which door is open. If the vehicle has been shifted out of P (Park), a DOOR OPEN message will also be displayed. Close the door completely.

MANUALLY CLOSE THE POWER LIFTGATE

This message will display if the power liftgate encounters multiple obstacles on the same power cycle. After removing the obstructions, the liftgate will resume normal power operation.

REAR ACCESS OPEN

This message will display along with a symbol when the liftgate is open. Close the liftgate completely.

Engine Cooling System Messages

A/C OFF DUE TO HIGH ENGINE TEMP

This message displays when the engine coolant becomes hotter than the normal operating temperature. To avoid added strain on a hot engine, the air conditioning compressor automatically turns off. When the coolant temperature returns to normal, the air conditioning compressor turns back on. The vehicle can continue to be driven.

If this message continues to appear, have the system repaired by your dealer as soon as possible to avoid damage to the engine.

COOLANT LEVEL LOW ADD COOLANT

This message will display if the coolant is low. See *Engine Coolant* ⇨ *214*.

ENGINE OVERHEATED — IDLE ENGINE

This message displays when the engine coolant temperature is too hot. Stop and allow the vehicle to idle until it cools down.

ENGINE OVERHEATED — STOP ENGINE

This message displays and a continuous chime sounds if the engine cooling system reaches unsafe temperatures for operation. Stop and turn off the vehicle as soon as it is safe to do so to avoid

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severe damage. This message clears when the engine has cooled to a safe operating temperature.

HIGH COOLANT TEMPERATURE

This message may display if the coolant temperature is hot. See *Engine Overheating* ⇨ *218*.

Engine Oil Messages

CHANGE ENGINE OIL SOON

This message displays when the engine oil needs to be changed. When you change the engine oil, be sure to reset the oil life system. See *Engine Oil Life System* ⇨ *211*, *Driver Information Center (DIC)* ⇨ *114*, *Engine Oil* ⇨ *208*, and *Maintenance Schedule* ⇨ *279*.

ENGINE OIL HOT, IDLE ENGINE

This message displays when the engine oil temperature is too hot. Stop and allow the vehicle to idle until it cools down.

ENGINE OIL LOW — ADD OIL

On some vehicles, this message displays when the engine oil level may be too low. Check the oil level before filling to the recommended level. If the oil is not low and this message remains on, take the vehicle to your dealer for service. See *Engine Oil* ⇨ *208*.

OIL PRESSURE LOW — STOP ENGINE

This message displays if low oil pressure levels occur. Stop the vehicle as soon as safely possible and do not operate it until the cause of the low oil pressure has been corrected. Check the oil as soon as possible and have the vehicle serviced by your dealer.

Engine Power Messages

ENGINE POWER IS REDUCED

This message displays when the vehicle's engine power is reduced. Reduced engine power can affect the vehicle's ability to accelerate. If this message is on, but there is no reduction in performance, proceed to your destination. The performance may be reduced the next time the vehicle is driven. The vehicle may be driven at a reduced speed while this message is on, but maximum acceleration and speed may be reduced. Anytime this message stays on, or displays repeatedly, the vehicle should be taken to your dealer for service as soon as possible.

Fuel System Messages

ECO MODE ON

On some models, this message displays when the Fuel Economy Mode has been turned on by pressing the eco button near the shift lever. See *Fuel Economy Mode* ⇨ *173*.

FUEL LEVEL LOW

This message displays when the vehicle is low on fuel. Refuel as soon as possible.

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TIGHTEN GAS CAP

This message may display when the fuel cap is not on tight. Tighten the fuel cap.

Key and Lock Messages

REPLACE BATTERY IN REMOTE KEY

This message displays when the battery in the Remote Keyless Entry (RKE) transmitter needs to be replaced.

Object Detection System Messages

FORWARD COLLISION ALERT OFF

If your vehicle has the Forward Collision Alert (FCA) system, this message may display if the FCA system cannot activate due to a temporary condition. See *Forward Collision Alert (FCA) System* ⇨ *184*.

FRONT CAMERA BLOCKED, CLEAN WINDSHIELD

This message displays when the Lane Departure Warning (LDW) and Forward Collision Alert (FCA) systems are disabled because the camera view is blocked and cannot operate properly. It may also activate during heavy rain or due to road spray. To clean the system, clean the outside of the windshield area in front of the LDW/FCA camera sensor.

LANE DEPARTURE SYSTEM UNAVAILABLE

If your vehicle has the Lane Departure Warning (LDW) system, this message may display if the LDW system cannot activate due to a temporary condition. See *Lane Departure Warning (LDW)* ⇨ *188* for more information.

PARK ASSIST OFF

This message displays when the park assist system has been turned off or when there is a temporary condition causing the system to be disabled. See *Parking Assist* ⇨ *183*.

SERVICE SIDE DETECTION SYSTEM

If this message appears, both SBZA displays will remain on indicating there is a problem with the SBZA system. If these displays remain on after continued driving, the system needs service. Take the vehicle to your dealer.

SERVICE FRONT CAMERA

This message displays when the Lane Departure Warning (LDW) and Forward Collision Alert (FCA) systems are disabled and need service. See your dealer.

SERVICE PARK ASSIST

This message displays if there is a problem with the Rear Parking Assist (RPA) system. Do not use this system to help you park. See *Parking Assist* ⇨ *183*.

SIDE BLIND ZONE ALERT SYSTEM OFF

This message indicates that the driver has turned the system off.

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SIDE BLIND ZONE SYS. UNAVAILABLE

This message indicates that the SBZA system is disabled because the sensor is blocked and cannot detect vehicles in the blind zone. The sensor may be blocked by mud, dirt, snow, ice, or slush. This message may also activate during heavy rain or due to road spray. The vehicle does not need service. For cleaning, see *Side Blind Zone Alert (SBZA)* ⇨ *186*.

Ride Control System Messages

ALL WHEEL DRIVE OFF

If your vehicle has the All-Wheel Drive (AWD) system, this message displays when there is a temporary condition making the AWD system unavailable. The vehicle will run in two-wheel drive. This could be caused by:

- A compact spare tire on the vehicle.
- AWD system overheat.
- Loss of wheel or vehicle speed.
- Certain other vehicle electrical conditions.

This message turns off when the compact spare tire is replaced by a full-size tire, the differential fluid cools or the above conditions are no longer present and the warning message is reset. To reset the warning message manually, turn the ignition off and then back on again after 30 seconds. If the message stays on, see your dealer.

SERVICE ALL WHEEL DRIVE

This message displays if a problem occurs with the All-Wheel Drive (AWD) system. The vehicle will run in two-wheel drive. This could be caused by:

- An electronics problem.
- Worn out or overheated clutch plates.
- Various electrical issues.

If this message appears, stop as soon as possible and turn off the ignition for 30 seconds. Restart the vehicle and check for the message on the DIC display. If the message still displays or appears again when you begin driving, the system needs service. See your dealer right away.

SERVICE TRACTION CONTROL

This message displays when there is a problem with the Traction Control System (TCS). See *Traction Control/Electronic Stability Control* ⇨ *176*.

SERVICE STABILITRAK

This message displays if there is a problem with the StabiliTrak system. See *Traction Control/Electronic Stability Control* ⇨ *176*.

STABILITRAK OFF

This message displays when the StabiliTrak system is turned off. See *Traction Control/Electronic Stability Control* ⇨ *176*.

TRACTION CONTROL OFF

This message displays when the Traction Control System (TCS) is turned off. Adjust your driving accordingly.

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TRACTION CONTROL ON

This message displays when the Traction Control System (TCS) is first turned on. See *Traction Control/ Electronic Stability Control* ⇨ *176*.

Airbag System Messages

SERVICE AIRBAG

This message displays if there is a problem with the airbag system. See your dealer for service.

Security Messages

THEFT ATTEMPTED

This message displays if the vehicle detects a tamper condition.

Service Vehicle Messages

SERVICE POWER STEERING

This message displays and a chime may sound when there may be a problem with the power steering system. If this message displays and a reduction in steering performance or loss of power steering assistance is noticed, see your dealer.

SERVICE VEHICLE SOON

This message is displayed if there is a problem with the vehicle. Take the vehicle to your dealer for service.

Tire Messages

SERVICE TIRE MONITOR SYSTEM

This message displays if there is a problem with the Tire Pressure Monitor System (TPMS). See *Tire Pressure Monitor Operation* ⇨ *244*.

TIRE LEARNING ACTIVE

This message displays when the system is learning new tires. See *Tire Pressure Monitor Operation* ⇨ *244*.

TIRE PRESSURE LOW ADD AIR TO TIRE

This message displays when the pressure in one or more of the tires is low.

This message also displays LEFT FRONT, RIGHT FRONT, LEFT REAR, or RIGHT REAR to indicate the location of the low tire.

The low tire pressure warning light will also come on. See *Tire Pressure Light* ⇨ *112*.

If a tire pressure message appears on the DIC, stop as soon as possible. Inflate the tires by adding air until the tire pressure is equal to the values shown on the Tire and Loading Information label. See *Tires* ⇨ *235*, *Vehicle Load Limits* ⇨ *160*, and *Tire Pressure* ⇨ *242*.

More than one tire pressure message can appear at a time. The DIC also shows the tire pressure values. See *Driver Information Center (DIC)* ⇨ *114*.

Transmission Messages

SERVICE TRANSMISSION

This message displays if there is a problem with the transmission. See your dealer.

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SHIFT TO PARK

This message displays when the transmission needs to be shifted to P (Park). This may appear when attempting to remove the key from the ignition or from the vehicle if the vehicle is not in P (Park).

TRANSMISSION HOT — IDLE ENGINE

This message displays and a chime sounds if the transmission fluid in the vehicle gets hot. Driving with the transmission fluid temperature high can cause damage to the vehicle. Stop the vehicle and let it idle to allow the transmission to cool. This message clears when the fluid temperature reaches a safe level.

Vehicle Reminder Messages

ICE POSSIBLE DRIVE WITH CARE

This message is displayed when ice conditions are possible.

TURN WIPER CONTROL TO INTERMITTENT FIRST

This message is displayed when attempting to adjust the intermittent wiper speed without intermittent selected on the wiper control. See *Windshield Wiper/Washer* ⇨ *97*.

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Vehicle Personalization

Use the audio system controls to access the personalization menus for customizing vehicle features.

The following are all possible personalization features. Depending on the vehicle, some may not be available.

Infotainment System Audio System Controls

Using the Faceplate

MENU/SEL Knob

- Press to enter, select, or activate a highlighted menu option.
- Turn to highlight a menu option.
- Press to enable or disable a system setting.

⇦ BACK

- Press to exit a menu.
- Press to return to a previous screen.

Using the Touchscreen

Touch a screen feature to:

- View more feature options.
- Enable or disable the feature.

△ **:** Touch to scroll up.

▽ **:** Touch to scroll down.

Back : Touch to return to the previous menu.

To access the personalization menu:

1. Touch Config on the Home page on the infotainment display or press CONFIG on the faceplate.
2. Select the desired feature to display a list of available options.
3. Select the desired feature setting.

Personalization Menus

The following list of menu items may be available:

- Languages
- Time and Date
- Radio Settings
- Phone Settings
- Navigation Settings
- Display Settings
- Vehicle Settings

Each menu is detailed in the following information.

Languages

Select Languages, then select from the available language(s).

Time and Date

Manually set the time and date. See *Clock* ⇨ *99*.

Radio Settings

Select and the following may display:

- Auto Volume
- Gracenote Options
- XM Channel Art
- Max Startup Volume
- Number of Favorites Pages
- XM Categories
- Software Versions Menu

Auto Volume

This feature adjusts the volume to minimize the effects of unwanted background noise that can result from changing road surfaces, driving speeds, or open windows. This feature works best at lower volume settings where background noise is typically louder than the sound system volume.

Select Off, Low, Medium, or High.

Gracenote Options

Select and the following may display:

- Normalization

Normalization

This feature improves voice recognition and media groupings. See “USB,” “Auxiliary Devices,” and “Bluetooth Audio” in the infotainment manual.

Select to enable or disable.

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XM Channel Art

This feature turns the XM Audio page background on the XM Channel display on and off.

Select to enable or disable.

Max Startup Volume

This feature sets the maximum startup volume. If the vehicle is started and the volume is greater than this level, the volume is adjusted to this level.

Select + or − to increase or decrease the volume.

Number of Favorites Pages

Select to set the number of favorites to display.

Select the desired number.

XM Categories

This allows which available XM Categories are used and displayed.

Press to enable or disable available categories.

Software Versions Menu

Select to display information about the system and update software if available.

Phone Settings

Select and the following may display:

- Bluetooth
- Sort Order

Bluetooth

Select and the following may display:

- Device List
- Pair Device

Device List

Select to connect to a different phone source, disconnect a phone, or delete a phone.

Pair Device

Select to pair a new device. See “Pairing a Phone/Device” under “Bluetooth” in the infotainment manual.

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Sort Order

Select to change the sort order of the contact list. See “Phone Settings” under “Bluetooth” in the infotainment manual.

Select First Name Last or Last Name First.

Navigation Settings

See “Navigation Settings” under “Configure Menu” in the infotainment manual.

Display Settings

Select and the following may display:

- Home Page Menu
- Rear Camera Options
- Display Off
- Map Settings

Home Page Menu

Select and the following may display:

- Customize
- Sort
- Restore Home Page Defaults

Customize

This feature allows the selection of what icons will be on the first Home Page.

Select and follow the screen prompts.

Sort

This feature allows the icons on the Home Page to be moved.

Select and follow the screen prompts.

Restore Home Page Defaults

This feature will restore the Home Page to the factory settings.

Select and follow the screen prompts.

Rear Camera Options

Select and the following may display:

- Symbols
- Guide Lines
- Rear Cross Traffic Alert (RCTA)

Symbols

When enabled, symbols will show on the camera screen. See *Rear Vision Camera (RVC)* ⇨ *181*.

Select to enable or disable.

Guide Lines

When enabled, guide lines will show on the camera screen. See *Rear Vision Camera (RVC)* ⇨ *181*.

Select to enable or disable.

Rear Cross Traffic Alert (RCTA)

When enabled, a symbol will show on the camera screen to warn of traffic coming from either direction. See *Rear Vision Camera (RVC)* ⇨ *181*.

Select to enable or disable.

Display Off

Select to turn the display off. The display will return when any radio buttons are pressed or the screen is touched.

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Map Settings

Select and the following may display:

- Map Display
- Speed Limits

Map Display

This feature changes the map screen display. See “Map Settings” under “Configure Menu” in the infotainment manual.

Select Automatic, Day, or Night.

Speed Limits

When enabled, the current road speed limit will display on the map. See “Map Settings” under “Configure Menu” in the infotainment manual.

Select to enable or disable.

Vehicle Settings

Select and the following may display:

- Climate and Air Quality
- Comfort and Convenience
- Collision Detection Systems

- Lighting
- Power Door Locks
- Remote Lock/Unlock/Start
- Return to Factory Settings?

Each of the menus is detailed in the following information.

Climate and Air Quality

Select and the following may display:

- Auto Fan Speed
- Air Conditioning Mode
- Remote Start Auto Heat Seats
- Auto Defog
- Auto Rear Defog

Auto Fan Speed

This selection is available on vehicles with the Automatic Climate Control System. Choose the blower speed setting.

Select High, Medium, or Low

Air Conditioning Mode

This will allow you to select whether or not the air conditioning comes on automatically the next time the vehicle is started. On means that the air conditioning will be on at start up, regardless of whether it was on or off the last time the vehicle was turned off. Off means the air conditioning will be off at the next start up, regardless of whether it was on or off the last time the vehicle was turned off. Last Setting means that when the vehicle is started, the air conditioning will resume whichever setting it was at the last time the vehicle was turned off.

Select On, Off, or Last Setting.

Remote Start Auto Heat Seats

When on, this feature will turn the heated seats on when using remote start on cold days.

Select to enable or disable.

Auto Defog

When turned on and high humidity is detected, the climate control system may adjust to outside air supply and turn on the air conditioner or the heater. The fan speed may slightly increase to help prevent fogging. When high humidity is no longer detected, the system will return to its prior operation.

Select On or Off.

Auto Rear Defog

When on, this feature turns on the rear defogger at vehicle start when the interior temperature is cold and fog is likely. The auto rear defog function can be disabled by pressing REAR. When off, the feature can be turned on by pressing REAR. See “Rear Window Defogger” under *Climate Control Systems* ⇨ *141* or *Automatic Climate Control System* ⇨ *143*.

Select On or Off.

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Comfort and Convenience

Select and the following may display:

- Easy Exit Driver Seat
- Chime Volume
- Reverse Tilt Mirror
- Memory Remote Recall
- Button Chime

Easy Exit Driver Seat

This feature moves the seat rearward allowing the driver more room to exit the vehicle. See “Easy Exit Driver Seat” under *Memory Seats ⇨ 50*.

Select On or Off.

Chime Volume

This allows the selection of the chime volume level.

Select Low or High.

Reverse Tilt Mirror

When on, both the driver and passenger mirrors will tilt downward when the vehicle is shifted to R (Reverse) to improve visibility of the ground near the rear wheels. They will return to their previous driving position when the vehicle is shifted out of R (Reverse), the ignition is turned to OFF, or the vehicle is left in R (Reverse). See *Reverse Tilt Mirrors ⇨ 40*.

Select On or Off.

Memory Remote Recall

This feature automatically recalls the current driver’s previously stored 1 or 2 button positions when entering the vehicle. See "Recalling RKE Memory Positions (Memory Remote Recall)" under *Memory Seats ⇨ 50*.

Select On or Off.

Button Chime

When enabled, a sound will be heard when a selection is made using the infotainment system.

Select to enable or disable.

Collision Detection Systems

Select and the following may display:

- Park Assist
- Side Blind Zone Alert
- Rear Cross Traffic Alert

Park Assist

This allows the Parking Assist feature to be turned on or off.

Select On, Off, or On with Tow Bar Attached.

See *Parking Assist ⇨ 183*.

Side Blind Zone Alert

This allows the Side Blind Zone Alert feature to be turned on or off.

Select On or Off.

See *Side Blind Zone Alert (SBZA) ⇨ 186*.

Rear Cross Traffic Alert

This allows the Rear Cross Traffic Alert feature to be turned on or off.

Select On or Off.

See *Rear Vision Camera (RVC) ⇨ 181*.

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Lighting

Select and the following may display:

- Vehicle Locator Lights
- Exit Lighting

Vehicle Locator Lights

This allows the vehicle locator lights to be turned on or off.

Select to enable or disable.

Exit Lighting

This allows the selection of how long the exterior lamps stay on when leaving the vehicle when it is dark outside.

Select Off, 30 Seconds, 1 Minute, or 2 Minutes.

Power Door Locks

Select and the following may display:

- Auto Door Unlock
- Delayed Door Lock

Auto Door Unlock

This allows selection of which of the doors will automatically unlock when the vehicle is shifted into P (Park).

Select All Doors, Driver Door, or Off.

Delayed Door Lock

When on, this feature will delay the locking of the doors. To override the delay, press on the door.

Select to enable or disable.

Remote Lock/Unlock/Start

Select and the following may display:

- Remote Unlock Light Feedback
- Remote Lock Feedback
- Remote Door Unlock

Remote Unlock Light Feedback

When on, the exterior lamps will flash when unlocking the vehicle with the RKE transmitter.

Select Flash Lights or Off.

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Remote Lock Feedback

This allows selection of what type of feedback is given when unlocking the vehicle with the RKE transmitter.

Select Lights and Horn, Lights Only, Horn Only, or Off.

Remote Door Unlock

This allows selection of which doors will unlock when pressing on the RKE transmitter.

Select All Doors or Driver Door.

Return to Factory Settings?

Select Return to Factory Settings to return all of the vehicle personalization to the default settings.

Select Yes or No.

Universal Remote System

See *Radio Frequency Statement* ⇨ *304*.

Universal Remote System Programming



If equipped, these buttons are in the overhead console.

This system can replace up to three remote control transmitters used to activate devices such as garage door openers, security systems, and home automation devices. These instructions refer to a garage door opener, but can be used for other devices.

Do not use the Universal Remote system with any garage door opener that does not have the stop and reverse feature. This includes any garage door opener model manufactured before April 1, 1982.

Read these instructions completely before programming the Universal Remote system. It may help to have another person assist with the programming process.

Keep the original hand-held transmitter for use in other vehicles as well as for future programming. Erase the programming when vehicle ownership is terminated. See “Erasing Universal Remote System Buttons” later in this section.

To program a garage door opener, park outside directly in line with and facing the garage door opener receiver. Clear all people and objects near the garage door.

Make sure the hand-held transmitter has a new battery for quick and accurate transmission of the radio-frequency signal.

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Programming the Universal Remote System

For questions or help programming the Universal Remote system, call 1-800-355-3515 or see www.homelink.com.

Programming involves time-sensitive actions, and may time out causing the procedure to be repeated.

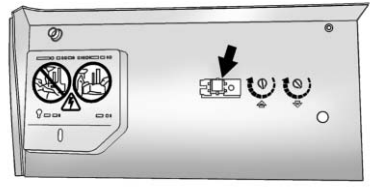
To program up to three devices:

1. Hold the end of the hand-held transmitter about 3 to 8 cm (1 to 3 in) away from the Universal Remote system buttons with the indicator light in view. The hand-held transmitter was supplied by the manufacturer of the garage door opener receiver.
2. At the same time, press and hold both the hand-held transmitter button and one of the three Universal Remote system buttons to be used to operate the garage door. Do not release either button until

the indicator light changes from a slow to a rapid flash. Then release both buttons.

Some garage door openers may require substitution of Step 2 with the procedure under “Radio Signals for Canada and Some Gate Operators” later in this section.

3. Press and hold the newly programmed Universal Remote system button for five seconds while watching the indicator light and garage door activation.
 - If the indicator light stays on continuously or the garage door moves when the button is pressed, then programming is complete. There is no need to complete Steps 4–6.
 - If the indicator light does not come on or the garage door does not move, a second button press may be required. For a second time, press and hold the newly programmed button for five seconds. If the light stays on or the garage door moves, programming is complete.
 - If the indicator light blinks rapidly for two seconds, then changes to a solid light and the garage door does not move, continue with programming Steps 4–6.



Learn or Smart Button

4. After completing Steps 1–3, locate the Learn or Smart button inside the garage on the garage door opener receiver. The name and color of the button may vary by manufacturer.
5. Press and release the Learn or Smart button. Step 6 must be completed within 30 seconds of pressing this button.
6. Inside the vehicle, press and hold the newly programmed Universal Remote system button for two seconds and then release it. If the garage door does not move or the lamp on the garage door opener receiver does not flash, press and hold the same button a second time for two seconds, then release it. Again, if the door does not move or the garage door lamp does not flash, press and hold the same button a third time for two seconds, then release it.

The Universal Remote system should now activate the garage door.

Repeat the process for programming the two remaining buttons.

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Radio Signals for Canada and Some Gate Operators

For questions or programming help call 1-800-355-3515 or see www.homelink.com.

Canadian radio-frequency laws and some U.S. gate operators require transmitter signals to time out or quit after several seconds of transmission. This may not be long enough for the Universal Remote system to pick up the signal during programming.

If the programming did not work, replace Step 2 under “Programming the Universal Remote System” with the following:

Press and hold the Universal Remote system button while pressing and releasing the hand-held transmitter button every two seconds until the signal has been successfully accepted by the Universal Remote system. The Universal Remote system indicator light will flash slowly at first and then rapidly. Proceed with Step 3 under “Programming the Universal Remote System” to complete.

Universal Remote System Operation

Using the Universal Remote System

Press and hold the appropriate Universal Remote system button for at least one-half second. The indicator light will come on while the signal is being transmitted.

Erasing Universal Remote System Buttons

Erase all programmed buttons when vehicle ownership is terminated.

To erase:

1. Press and hold the two outside buttons until the indicator light begins to flash. This should take about 10 seconds.
2. Release both buttons.

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Reprogramming a Single Universal Remote System Button

To reprogram any of the system buttons:

1. Press and hold any one of the buttons. Do not release the button.
2. The indicator light will begin to flash after 20 seconds. Without releasing the button, proceed with Step 1 under “Programming the Universal Remote System.”

Lighting

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Exterior Lighting

Exterior Lamp Controls



The exterior lamp control is on the turn signal lever.

There are four positions.

⏻ **:** Briefly turn to this position to turn the automatic light control off or on again.

AUTO : Turns the exterior lamps on and off automatically depending on the exterior light. The vehicle will default to the AUTO setting when it is first started.

: Turns on the parking lamps including all lamps, except the headlamps.

: Turns on the headlamps, together with the parking lamps and instrument panel lights.

Headlamp High/ Low-Beam Changer

: Push the turn signal lever away from you and release, to turn the high beams on. To return to low beams, push the lever again or pull it toward you and release.



This indicator light turns on in the instrument cluster when the high-beam headlamps are on.

Flash-to-Pass

The flash-to-pass feature works with the low beams or Daytime Running Lamps (DRL) on or off.

To flash the high beams, pull the turn signal lever all the way toward you, then release it.

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Daytime Running Lamps (DRL)

DRL can make it easier for others to see the front of your vehicle during the day.

The low-beam headlamps or dedicated DRL, if equipped, come on at a reduced brightness in daylight when the following conditions are met:

- The ignition is on.
- The exterior lamp control is in AUTO.
- The transmission is not in P (Park).
- The light sensor determines it is daytime.
- The parking brake is released.

Fully functional DRL are required on all vehicles first sold in Canada.

When the DRL are on, the taillamps, sidemarker, instrument panel lights, and other lamps will not be on. The instrument cluster will be lit.

When the exterior lamp control is turned to , the low-beam headlamps come on. The other lamps that come on with the headlamps will also come on.

To idle your vehicle with the DRL off, move the shift lever to P (Park). The DRL will stay off until the shift lever is moved out of the P (Park) position.

For vehicles first sold in the United States or Mexico, the DRL can also be turned off by turning the lamp control counterclockwise. The DRL will stay off until the next ignition cycle.

The regular headlamp system should be turned on when needed.

Automatic Headlamp System

When it is dark enough outside, the headlamps come on automatically.

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Do not cover the light sensor on top of the instrument panel or the headlamps will come on when they are not needed.

The system may also turn on the headlamps when driving through a parking garage or tunnel.

If the vehicle is started in a dark garage, the automatic headlamp system comes on immediately. If it is light outside when the vehicle leaves the garage, there is a slight delay before the automatic headlamp system changes to the DRL. During that delay, the instrument cluster may not be as bright as usual. Make sure the instrument panel brightness control is in the full bright position. See *Instrument Panel Illumination Control* ⇨ *137*.

Lights On with Wipers

If the windshield wipers are activated in daylight with the engine on, and the exterior lamp control is in AUTO, the headlamps, parking lamps, and other exterior lamps come on. The transition time for the lamps coming on varies based on wiper speed. When the wipers are not operating, these lamps turn off. Move the exterior lamp control to ⏻ or ≡O≡ to disable this feature.

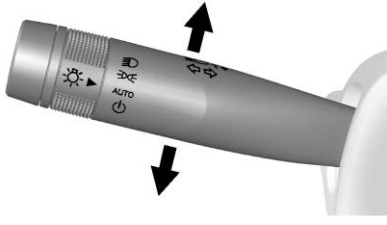
Hazard Warning Flashers



⚠ : Press to make the front and rear turn signal lamps flash on and off. This warns others that you are having trouble.

Press ⚠ again to turn the flashers off.

Turn and Lane-Change Signals



Move the lever all the way up or down to signal a turn.

An arrow on the instrument cluster flashes in the direction of the turn or lane change.

Raise or lower the lever until the arrow starts to flash to signal a lane change. Hold it there until the lane change is completed. If the lever is briefly pressed and released, the turn signal flashes three times.

The lever returns to its starting position when it is released.

If after signaling a turn or lane change, the arrow flashes rapidly or does not come on, a signal bulb may be burned out.

Have any burned out bulbs replaced. If a bulb is not burned out, check the fuse; see *Fuses* ⇨ *230*.

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Interior Lighting

Instrument Panel Illumination Control

This control is located on the instrument panel, to the left of the steering column.

: Turn clockwise or counterclockwise to brighten or dim the lights.

Dome Lamps

There are front and rear dome lamps.

The dome lamp controls are located in the overhead console. To change the settings, press the following:

: Turns the lamps off, even when a door is open.

: The lamps come on automatically when a door is opened.

: Turns the dome lamps on.

The dome lamps can also be turned on and off by pressing the buttons next to the lamps.

Reading Lamps

The reading lamps are located on the overhead console. These lamps come on automatically when any door is opened.

For manual operation, press the button next to each lamp to turn it on or off.

Lighting Features

Entry Lighting

Some exterior lamps and interior lamps turn on briefly at night, or in areas with limited lighting, when is pressed on the Remote Keyless Entry (RKE) transmitter. When a door is opened, the interior lamps come on. They stay on for about 20 seconds. When all of the doors have been closed or the ignition is turned to ON/RUN, they gradually fade out.

This feature can be changed. See “Vehicle Locator Lights” under *Vehicle Personalization* ⇨ *124*.

Exit Lighting

Some exterior lamps and interior lamps come on at night, or in areas with limited lighting, when the key is removed from the ignition. The dome lamp comes on after the ignition is changed to the OFF position. The exterior lamps and

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dome lamp remain on for a set amount of time, then automatically turn off.

The exterior lamps turn off immediately by turning the exterior lamp control off.

This feature can be changed. See *Vehicle Personalization ⇨ 124*.

Battery Load Management

The vehicle has Electric Power Management (EPM) that estimates the battery's temperature and state of charge. It then adjusts the voltage for best performance and extended life of the battery.

When the battery's state of charge is low, the voltage is raised slightly to quickly bring the charge back up. When the state of charge is high, the voltage is lowered slightly to prevent overcharging. If the vehicle has a voltmeter gauge or a voltage display on the Driver Information Center (DIC), you may see the voltage move up or down. This is normal. If there is a problem, an alert will be displayed.

The battery can be discharged at idle if the electrical loads are very high. This is true for all vehicles. This is because the generator (alternator) may not be spinning fast enough at idle to produce all of the power needed for very high electrical loads.

A high electrical load occurs when several of the following are on, such as: headlamps, high beams, rear window defogger, climate control fan at high speed, heated seats, engine cooling fans, trailer loads, and loads plugged into accessory power outlets.

EPM works to prevent excessive discharge of the battery. It does this by balancing the generator's output and the vehicle's electrical needs. It can increase engine idle speed to generate more power whenever needed. It can temporarily reduce the power demands of some accessories.

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Normally, these actions occur in steps or levels, without being noticeable. In rare cases at the highest levels of corrective action, this action may be noticeable to the driver. If so, a DIC message might be displayed and it is recommended that the driver reduce the electrical loads as much as possible. See *Battery Voltage and Charging Messages ⇨ 118*.

Battery Power Protection

The battery saver feature is designed to protect the vehicle's battery.

If some interior lamps are left on and the ignition is turned off, the battery rundown protection system automatically turns the lamp off after some time.

Exterior Lighting Battery Saver

The exterior lamps turn off about 10 minutes after the ignition is turned off, if the parking lamps or headlamps have been manually left on. This protects against draining

the battery. To restart the 10-minute timer, turn the exterior lamp control to the ⏻ position and then back to the ≥00≤ or ≡D position.

To keep the lamps on for more than 10 minutes, the ignition must be in the ACC/ACCESSORY or ON/RUN/START position.

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Infotainment System

Introduction
Infotainment 140

Introduction

Infotainment

See the infotainment manual for information on the radio, audio players, phone, navigation system, and voice or speech recognition. It also includes information on settings.

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Climate Controls

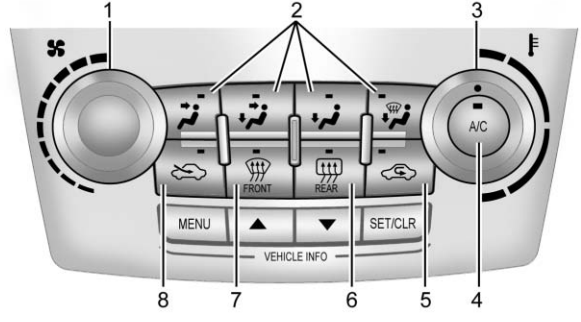
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Climate Control Systems

The vehicle's heating, cooling, defrosting, and ventilation can be controlled with this system.



1. Fan Control
2. Air Delivery Mode Controls
3. Temperature Control
4. A/C (Air Conditioning)
5. Recirculation
6. Rear Window Defogger
7. Front Defrost
8. Outside Air

: Turn to increase or decrease the fan speed. Turn the knob all the way counterclockwise to turn the fan off.

Temperature Control : Turn to increase or decrease the temperature.

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Air Delivery Mode Control : To change the current mode, select one of the following:

: Air is directed to the instrument panel outlets.

: Air is directed to the instrument panel outlets and the floor outlets.

: Air is directed to the floor outlets with some air directed to the windshield and the side window outlets.

: Clears the windows of fog or moisture. Air is directed to the windshield with some air directed to the floor and side window outlets.

FRONT : Press to clear the windshield of fog or frost more quickly. Air is directed to the windshield and side window outlets. The system allows outside air into the vehicle and the air conditioning compressor will run, unless the outside temperature is below freezing.

For best results, clear all snow and ice from the windshield before defrosting.

Do not drive the vehicle until all the windows are clear.

If equipped with the Fuel Economy Mode, the climate controls may take longer to heat or cool the cabin and the rear window defogger will turn off sooner, when this feature is in use. See *Fuel Economy Mode* ⇨ *173*.

Air Conditioning

A/C : Press to turn the air conditioning on or off. An indicator light comes on to show that the air conditioning is enabled. If the fan is turned off, the air conditioner will not run. The A/C light will stay on even if the outside temperature is below freezing.

: Press to turn on the recirculation. An indicator light comes on. Air is recirculated inside the vehicle. It helps to quickly cool the air inside the vehicle and reduce the outside air and odor that might enter. The air conditioning may come on under certain conditions.

To improve fuel efficiency and to cool the vehicle faster, recirculation may be automatically selected in warm weather. The recirculation light will not come on. To override this feature, select outside air.

: Press to turn on the outside air. An indicator light comes on. Outside air is circulated throughout the vehicle.

Rear Window Defogger

REAR : Press to turn the rear window defogger on or off. An indicator light on the button comes on to show that the rear window defogger is on. It turns off if the ignition is put in the ACC/ ACCESSORY or LOCK/OFF position.

The ignition must be on to use the rear window defogger.

Do not drive the vehicle until all the windows are clear.

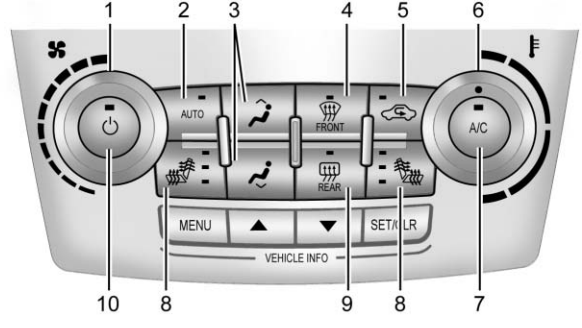
DEP DEALER E-PROCESS

Caution

Do not use a razor blade or sharp object to clear the inside rear window. Do not adhere anything to the defogger grid lines in the rear glass. These actions may damage the rear defogger. Repairs would not be covered by the vehicle warranty.

Automatic Climate Control System

The vehicle's heating, cooling, defrosting, and ventilation can be controlled with this system.



1. Fan Control
2. AUTO (Automatic Operation)
3. Air Delivery Mode Controls
4. Front Defrost
5. Recirculation
6. Temperature Control
7. A/C (Air Conditioning)
8. Driver and Passenger Heated Seats (If Equipped)
9. Rear Window Defogger
10. Power

Automatic Operation

The system automatically controls the fan speed, air delivery, air conditioning, and recirculation in order to heat or cool the vehicle to the desired temperature:

When AUTO is lit, all four functions operate automatically. Each function can also be manually set and the

DEALER E-PROCESS

setting is displayed. Functions not manually set will continue to be automatically controlled, even if the AUTO indicator is not lit.

For automatic operation:

1. Press AUTO.
2. Set the temperature to 22° C (72° F) and allow the system time to stabilize. Then adjust the temperature as needed.

 To improve fuel efficiency and to cool the vehicle faster, recirculation may be automatically selected in warm weather. The recirculation light will not come on. Press to select recirculation; press it again to select outside air.

Manual Operation

: Press to turn the climate control system on or off.

: Turn to increase or decrease the fan speed. Adjusting the fan speed while in automatic mode places the fan under manual control. The AUTO indicator light turns off. The air delivery mode remains in automatic control.

Temperature Control : Turn to increase or decrease the temperature inside the vehicle.

/ : Press mode up or mode down to cycle through the different air delivery modes. The current mode is shown on the display.

Select from the following:

: Air is directed to the instrument panel outlets.

: Air is directed to the instrument panel outlets and the floor outlets.

: Air is directed to the floor outlets with some air directed to the windshield and the side window outlets.

: Clears the windows of fog or moisture. Air is directed to the windshield with some air directed to the floor and side window outlets.

FRONT : Press to clear the windshield of fog or frost more quickly. Air is directed to the windshield and side window outlets. The system allows outside air into the vehicle and the air conditioning compressor will run, unless the outside temperature is below freezing.

For best results, clear all snow and ice from the windshield before defrosting.

Do not drive the vehicle until all the windows are clear.

For vehicles with Fuel Economy Mode, the climate controls may take longer to heat or cool the cabin and the rear window defogger will turn off sooner, when this feature is in use. See *Fuel Economy Mode* ⇨ *173*.

Air Conditioning

A/C : Press to turn the air conditioning on or off. An indicator light comes on to show that the air conditioning is enabled. If the fan is turned off, the air conditioner will not run. The A/C indicator light will stay on even if the outside temperature is below freezing.

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: Press to turn on the recirculation. Press to alternate between recirculation and outside air, if the vehicle does not have a separate outside air button.

The indicator light turns on when recirculation is selected. Air is recirculated inside the vehicle. It helps to quickly cool the air inside the vehicle and reduce the outside air and odors that might enter.

: If equipped, press to turn on the outside air. An indicator light comes on. Outside air is circulated throughout the vehicle.

Auto Defog : The climate control system has a sensor to automatically detect high humidity inside the vehicle. When high humidity is detected, the climate control system may adjust to outside air supply and turn on the air conditioner. If the climate control system does not detect possible window fogging, it returns to normal operation. To turn Auto Defog on or off, see “Climate and Air Quality” under *Vehicle Personalization* ⇨ *124*.

Rear Window Defogger

REAR : Press to turn the rear window defogger on or off. An indicator light on the button comes on to show that the rear window defogger is on. It turns off if the ignition is put in the ACC/ ACCESSORY or LOCK/OFF position.

The ignition must be on to use the rear window defogger.

Do not drive the vehicle until all the windows are clear.

Caution
Do not use a razor blade or sharp object to clear the inside rear window. Do not adhere anything to the defogger grid lines in the rear glass. These actions may damage the rear defogger. Repairs would not be covered by the vehicle warranty.

/ : If equipped with heated seats, see *Heated Front Seats* ⇨ *52*.

Remote Start Climate Control Operation : If equipped with the remote start feature, the climate control system may run when the vehicle is started remotely. The system uses the driver’s previous settings to heat or cool the inside of the vehicle. The rear defog may come on during remote start based on cold ambient conditions. The rear defog indicator light does not come on during a remote start. If the vehicle has heated front seats, they may come on during a remote start. See *Remote Vehicle Start* ⇨ *29* and *Heated Front Seats* ⇨ *52*.

Sensors

The solar sensor, located on top of the instrument panel near the windshield, monitors the solar heat.

The climate control system uses the information to adjust the temperature, fan speed, recirculation, and air delivery mode.

Do not cover the solar sensor or the system will not work properly.

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Air Vents

Center Air Vents

Use the louvers located on the air vents to change the direction of the airflow. Use the thumbwheels to open or close off the airflow.

Side Air Vents

Use the louvers located on the air vents to change the direction of the airflow or to open or close off the airflow.

Operation Tips

- Clear away any ice, snow, or leaves from air inlets at the base of the windshield that could block the flow of air into the vehicle.
- Keep the path under the front seats clear of objects to help circulate the air inside of the vehicle more effectively.
- Use of non-GM approved hood deflectors can adversely affect the performance of the system. Check with your dealer before adding equipment to the outside of the vehicle.
- Do not attach any devices to the air vent slats. This restricts airflow and may cause damage to the air vents.

Maintenance

Passenger Compartment Air Filter

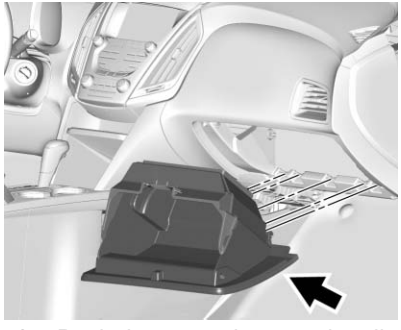
The filter reduces the dust, pollen, and other airborne irritants from outside air that is pulled into the vehicle.

The filter should be replaced as part of routine scheduled maintenance. See *Maintenance Schedule* ⇨ *279* for replacement intervals. To find out what type of filter to use, see *Maintenance Replacement Parts* ⇨ *289*.

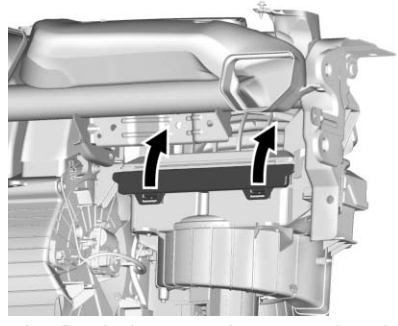
The passenger compartment air filter can be accessed by removing the entire glove box.

1. Open the glove box completely and locate the stop tab on top of the glove box door.

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2. Push the stop tab upward until the stop tab is under the instrument panel assembly and the glove box is released.
3. Unsnap the tabs beneath the glove box that connect it to the bottom of the instrument panel assembly.
4. Remove the glove box.
5. Locate the service door for the passenger compartment air filter.



6. Push the two tabs upward and release the latches holding the service door. Lift the service door.
7. Remove the old air filter.
8. Install the new air filter.
9. Close the service door and latches.
10. Reinstall the glove box.

See your dealer if additional assistance is needed.

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Driving Information

Distracted Driving

Distraction comes in many forms and can take your focus from the task of driving. Exercise good judgment and do not let other activities divert your attention away from the road. Many local governments have enacted laws regarding driver distraction. Become familiar with the local laws in your area.

To avoid distracted driving, always keep your eyes on the road, hands on the wheel, and mind on the drive.

- Do not use a phone in demanding driving situations. Use a hands-free method to place or receive necessary phone calls.
- Watch the road. Do not read, take notes, or look up information on phones or other electronic devices.
- Designate a front seat passenger to handle potential distractions.
- Become familiar with vehicle features before driving, such as programming favorite radio stations and adjusting climate control and seat settings. Program all trip information into any navigation device prior to driving.
- Wait until the vehicle is parked to retrieve items that have fallen to the floor.
- Stop or park the vehicle to tend to children.
- Keep pets in an appropriate carrier or restraint.
- Avoid stressful conversations while driving, whether with a passenger or on a cell phone.

⚠ Warning

Taking your eyes off the road too long or too often could cause a crash resulting in injury or death. Focus your attention on driving.

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Refer to the infotainment manual for more information on using that system and the navigation system, if equipped, including pairing and using a cell phone.

Defensive Driving

Defensive driving means “always expect the unexpected.” The first step in driving defensively is to wear the safety belt. See *Safety Belts* ⇨ *54*.

- Assume that other road users (pedestrians, bicyclists, and other drivers) are going to be careless and make mistakes. Anticipate what they might do and be ready.
- Allow enough following distance between you and the driver in front of you.
- Focus on the task of driving.

Drunk Driving

Death and injury associated with drinking and driving is a global tragedy.

⚠ Warning

Drinking and then driving is very dangerous. Your reflexes, perceptions, attentiveness, and judgment can be affected by even a small amount of alcohol. You can have a serious — or even fatal — collision if you drive after drinking.

Do not drink and drive or ride with a driver who has been drinking. Ride home in a cab; or if you are with a group, designate a driver who will not drink.

Control of a Vehicle

Braking, steering, and accelerating are important factors in helping to control a vehicle while driving.

Braking

Braking action involves perception time and reaction time. Deciding to push the brake pedal is perception time. Actually doing it is reaction time.

Average driver reaction time is about three-quarters of a second. In that time, a vehicle moving at 100 km/h (60 mph) travels 20 m (66 ft), which could be a lot of distance in an emergency.

Helpful braking tips to keep in mind include:

- Keep enough distance between you and the vehicle in front of you.
- Avoid needless heavy braking.
- Keep pace with traffic.

If the engine ever stops while the vehicle is being driven, brake normally but do not pump the brakes. Doing so could make the pedal harder to push down. If the engine stops, there will be some power brake assist but it will be used when the brake is applied. Once the power assist is used up, it can take longer to stop and the brake pedal will be harder to push.

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Steering

Electric Power Steering (2.4L L4 Engine)

If the vehicle has electric power steering, it does not have power steering fluid. Regular maintenance is not required.

If power steering assist is lost due to a system malfunction, the vehicle can be steered, but may require increased effort.

If the steering wheel is turned until it reaches the end of its travel and is held against that position for an extended period of time, power steering assist may be reduced.

If the steering assist is used for an extended period of time, power assist may be reduced.

Normal use of the power steering assist should return when the system cools down.

See specific vehicle steering messages under *Service Vehicle Messages* ⇨ *123*.

Hydraulic Power Steering (3.6L V6 Engine)

If your vehicle has hydraulic power steering, it may require maintenance. See *Power Steering Fluid (2.4L L4 Engine)* ⇨ *219* or *Power Steering Fluid (3.6L V6 Engine)* ⇨ *219*.

If power steering is lost because the engine stops or a system malfunctions, the vehicle can be steered but may require increased effort. See your dealer if there is a problem.

Caution
If the steering wheel is turned until it reaches the end of its travel, and is held in that position for more than 15 seconds, damage may occur to the power steering system and there may be loss of power steering assist.

Curve Tips

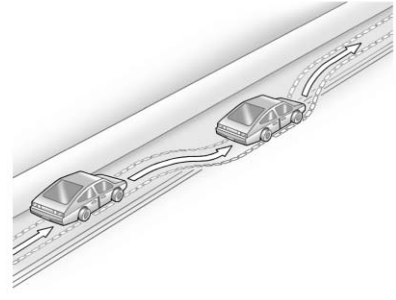
- Take curves at a reasonable speed.
- Reduce speed before entering a curve.
- Maintain a reasonable steady speed through the curve
- Wait until the vehicle is out of the curve before accelerating gently into the straightaway.

Steering in Emergencies

- There are some situations when steering around a problem may be more effective than braking.
- Holding both sides of the steering wheel allows you to turn 180 degrees without removing a hand.
- Anti-lock Brake System (ABS) allows steering while braking.

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Off-Road Recovery



The vehicle's right wheels can drop off the edge of a road onto the shoulder while driving. Follow these tips:

1. Ease off the accelerator and then, if there is nothing in the way, steer the vehicle so that it straddles the edge of the pavement.
2. Turn the steering wheel about one-eighth of a turn, until the right front tire contacts the pavement edge.

3. Turn the steering wheel to go straight down the roadway.

Loss of Control

Skidding

There are three types of skids that correspond to the vehicle's three control systems:

- Braking Skid — wheels are not rolling.
- Steering or Cornering Skid — too much speed or steering in a curve causes tires to slip and lose cornering force.
- Acceleration Skid — too much throttle causes the driving wheels to spin.

Defensive drivers avoid most skids by taking reasonable care suited to existing conditions, and by not overdriving those conditions. But skids are always possible.

If the vehicle starts to slide, follow these suggestions:

- Ease your foot off the accelerator pedal and steer the way you want the vehicle to go. The vehicle may straighten out. Be ready for a second skid if it occurs.
- Slow down and adjust your driving according to weather conditions. Stopping distance can be longer and vehicle control can be affected when traction is reduced by water, snow, ice, gravel, or other material on the road. Learn to recognize warning clues — such as enough water, ice, or packed snow on the road to make a mirrored surface — and slow down when you have any doubt.
- Try to avoid sudden steering, acceleration, or braking, including reducing vehicle speed by shifting to a lower gear. Any sudden changes could cause the tires to slide.

Remember: Antilock brakes help avoid only the braking skid.

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Off-Road Driving

All-wheel-drive vehicles can be used for off-road driving. Vehicles without all-wheel drive and vehicles not equipped with All Terrain (AT) or On-Off Road (OOR) tires must not be driven off-road except on a level, solid surface. To contact the tire manufacturer for more information about the original equipment tires, see the warranty manual.

Controlling the vehicle is the key to successful off-road driving. One of the best ways to control the vehicle is to control the speed.

⚠ Warning

When driving off-road, bouncing and quick changes in direction can easily throw you out of position. This could cause you to lose control and crash. You and your passengers should always wear safety belts.

Before Driving Off-Road

- Have all necessary maintenance and service work completed.
- Fuel the vehicle, fill fluid levels, and check inflation pressure in all tires, including the spare, if equipped.
- Read all the information about all-wheel-drive vehicles in this manual.
- Make sure all underbody shields, if equipped, are properly attached.
- Know the local laws that apply to off-road driving.

To gain more ground clearance if needed, it may be necessary to remove the front fascia lower air dam. However, driving without the air dam reduces fuel economy.

Caution

Operating the vehicle for extended periods without the front fascia lower air dam installed can

(Continued)

Caution (Continued)

cause improper airflow to the engine. Reattach the front fascia air dam after off-road driving.

Loading the Vehicle for Off-Road Driving

⚠ Warning

- Unsecured cargo on the load floor can be tossed about when driving over rough terrain. You or your passengers can be struck by flying objects. Secure the cargo properly.
- Keep cargo in the cargo area as far forward and as low as possible. The heaviest things should be on the floor, forward of the rear axle.
- Heavy loads on the roof raise the vehicle's center of gravity, making it more likely

(Continued)

Warning (Continued)

to roll over. You can be seriously or fatally injured if the vehicle rolls over. Put heavy loads inside the cargo area, not on the roof.

For more information about loading the vehicle, see *Vehicle Load Limits ⇨ 160*.

Environmental Concerns

- Always use established trails, roads, and areas that have been set aside for public off-road recreational driving and obey all posted regulations.
- Do not damage shrubs, flowers, trees, or grasses or disturb wildlife.
- Do not park over things that burn. See *Parking over Things That Burn ⇨ 170*.

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Driving on Hills

Driving safely on hills requires good judgment and an understanding of what the vehicle can and cannot do.

⚠ Warning

Many hills are simply too steep for any vehicle. Driving up hills can cause the vehicle to stall. Driving down hills can cause loss of control. Driving across hills can cause a rollover. You could be injured or killed. Do not drive on steep hills.

Before driving on a hill, assess the steepness, traction, and obstructions. If the terrain ahead cannot be seen, get out of the vehicle and walk the hill before driving further.

When driving on hills:

- Use a low gear and keep a firm grip on the steering wheel.
- Maintain a slow speed.
- When possible, drive straight up or down the hill.
- Slow down when approaching the top of the hill.
- Use headlamps even during the day to make the vehicle more visible.

⚠ Warning

Driving to the top of a hill at high speed can cause an accident. There could be a drop-off, embankment, cliff, or even another vehicle. You could be seriously injured or killed. As you near the top of a hill, slow down and stay alert.

- Never go downhill forward or backward with the transmission in N (Neutral). The brakes could overheat and you could lose control.
- When driving down a hill, keep the vehicle headed straight down. Use a low gear because the engine will work with the brakes to slow the vehicle and help keep the vehicle under control.

⚠ Warning

Heavy braking when going down a hill can cause your brakes to overheat and fade. This could cause loss of control and you or others could be injured or killed. Apply the brakes lightly when descending a hill and use a low gear to keep vehicle speed under control.

If the vehicle stalls on a hill:

1. Apply the brakes to stop the vehicle, and then apply the parking brake.
2. Shift into P (Park) and then restart the engine.
 - If driving uphill when the vehicle stalls, shift to R (Reverse), release the parking brake, and back straight down.

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- Never try to turn the vehicle around. If the hill is steep enough to stall the vehicle, it is steep enough to cause it to roll over.
- If you cannot make it up the hill, back straight down the hill.
- Never back down a hill in N (Neutral) using only the brake.
- The vehicle can roll backward quickly and you could lose control.
- If driving downhill when the vehicle stalls, shift to a lower gear, release the parking brake, and drive straight down the hill.

3. If the vehicle cannot be restarted after stalling, set the parking brake, shift an automatic transmission into P (Park), and turn the vehicle off.
 3.1. Leave the vehicle and seek help.
 3.2. Stay clear of the path the vehicle would take if it rolled downhill.

- Avoid turns that take the vehicle across the incline of the hill. A hill that can be driven straight up or down might be too steep to drive across. Driving across an incline puts more weight on the downhill wheels which could cause a downhill slide or a rollover.
- Surface conditions can be a problem. Loose gravel, muddy spots, or even wet grass can cause the tires to slip sideways, downhill. If the vehicle slips sideways, it can hit something that will trip it – a rock, a rut, etc. – and roll over.
- Hidden obstacles can make the steepness of the incline more severe. If a rock is driven across with the uphill wheels, or if the downhill wheels drop into a rut or depression, the vehicle can tilt even more.

DEP
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- If an incline must be driven across, and the vehicle starts to slide, turn downhill. This should help straighten out the vehicle and prevent the side slipping.

⚠ Warning

Getting out of the vehicle on the downhill side when stopped across an incline is dangerous. If the vehicle rolls over, you could be crushed or killed. Always get out on the uphill side of the vehicle and stay well clear of the rollover path.

Driving in Mud, Sand, Snow, or Ice

Use a low gear when driving in mud – the deeper the mud, the lower the gear. Keep the vehicle moving to avoid getting stuck.

Traction changes when driving on sand. On loose sand, such as on beaches or sand dunes, the tires tend to sink into the sand. This affects steering, accelerating, and

braking. Drive at a reduced speed and avoid sharp turns or abrupt maneuvers.

Traction is reduced on hard packed snow and ice and it is easy to lose control. Reduce vehicle speed when driving on hard packed snow and ice.

⚠ Warning

Driving on frozen lakes, ponds, or rivers can be dangerous. Ice conditions vary greatly and the vehicle could fall through the ice; you and your passengers could drown. Drive your vehicle on safe surfaces only.

Driving in Water

⚠ Warning

Driving through rushing water can be dangerous. Deep water can sweep your vehicle downstream and you and your passengers

(Continued)

Warning (Continued)

could drown. If it is only shallow water, it can still wash away the ground from under your tires. Traction could be lost, and the vehicle could roll over. Do not drive through rushing water.

Caution

Do not drive through standing water if it is deep enough to cover the wheel hubs, axles, or exhaust pipe. Deep water can damage the axle and other vehicle parts.

If the standing water is not too deep, drive slowly through it. At faster speeds, water splashes on the ignition system and the vehicle can stall. Stalling can also occur if you get the exhaust pipe under water. While the exhaust pipe is under water, you will not be able to start the engine. When going through water, the brakes get wet, and it might take longer to stop. See *Driving on Wet Roads* ⇨ *156*.

After Off-Road Driving

Remove any brush or debris that has collected on the underbody or chassis, or under the hood. These accumulations can be a fire hazard.

After operation in mud or sand, have the brake linings cleaned and checked. These substances can cause glazing and uneven braking. Check the body structure, steering, suspension, wheels, tires, and exhaust system for damage and check the fuel lines and cooling system for any leakage.

More frequent maintenance service is required. See *Maintenance Schedule* ⇨ *279*.

Driving on Wet Roads

Rain and wet roads can reduce vehicle traction and affect your ability to stop and accelerate. Always drive slower in these types

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of driving conditions and avoid driving through large puddles and deep-standing or flowing water.

⚠ Warning

Wet brakes can cause crashes. They might not work as well in a quick stop and could cause pulling to one side. You could lose control of the vehicle.

After driving through a large puddle of water or a car/vehicle wash, lightly apply the brake pedal until the brakes work normally.

Flowing or rushing water creates strong forces. Driving through flowing water could cause the vehicle to be carried away. If this happens, you and other vehicle occupants could drown. Do not ignore police warnings and be very cautious about trying to drive through flowing water.

Hydroplaning

Hydroplaning is dangerous. Water can build up under the vehicle's tires so they actually ride on the water. This can happen if the road is wet enough and you are going fast enough. When the vehicle is hydroplaning, it has little or no contact with the road.

There is no hard and fast rule about hydroplaning. The best advice is to slow down when the road is wet.

Other Rainy Weather Tips

Besides slowing down, other wet weather driving tips include:

- Allow extra following distance.
- Pass with caution.
- Keep windshield wiping equipment in good shape.
- Keep the windshield washer fluid reservoir filled.
- Have good tires with proper tread depth. See *Tires* ⇨ *235*.
- Turn off cruise control.

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Hill and Mountain Roads

Driving on steep hills or through mountains is different than driving on flat or rolling terrain. Tips include:

- Keep the vehicle serviced and in good shape.
- Check all fluid levels and brakes, tires, cooling system, and transmission.
- Shift to a lower gear when going down steep or long hills.

⚠ Warning

Using the brakes to slow the vehicle on a long downhill slope can cause brake overheating, can reduce brake performance, and could result in a loss of braking. Shift the transmission to a lower gear to let the engine assist the brakes on a steep downhill slope.

⚠ Warning

Coasting downhill in N (Neutral) or with the ignition off is dangerous. This can cause overheating of the brakes and loss of steering. Always have the engine running and the vehicle in gear.

- Drive at speeds that keep the vehicle in its own lane. Do not swing wide or cross the center line.
- Be alert on top of hills; something could be in your lane (e.g., stalled car, accident).
- Pay attention to special road signs (e.g., falling rocks area, winding roads, long grades, passing or no-passing zones) and take appropriate action.

Winter Driving

Driving on Snow or Ice

Snow or ice between the tires and the road creates less traction or grip, so drive carefully. Wet ice can occur at about 0 °C (32 °F) when freezing rain begins to fall. Avoid driving on wet ice or in freezing rain until roads can be treated.

For Slippery Road Driving:

- Accelerate gently. Accelerating too quickly causes the wheels to spin and makes the surface under the tires slick.
- Turn on Traction Control. See *Traction Control/Electronic Stability Control* ⇨ *176*.
- The Antilock Brake System (ABS) improves vehicle stability during hard stops, but the brakes should be applied sooner than when on dry pavement. See *Antilock Brake System (ABS)* ⇨ *174*.
- Allow greater following distance and watch for slippery spots. Icy patches can occur on otherwise clear roads in shaded areas. The surface of a curve or an overpass can remain icy when the surrounding roads are clear. Avoid sudden steering maneuvers and braking while on ice.
- Turn off cruise control.

Blizzard Conditions

Stop the vehicle in a safe place and signal for help. Stay with the vehicle unless there is help nearby.
If possible, use Roadside Assistance. See *Roadside Assistance Program* ⇨ *298*. To get help and keep everyone in the vehicle safe:

- Turn on the hazard warning flashers.
- Tie a red cloth to an outside mirror.

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⚠ Warning

Snow can trap engine exhaust under the vehicle. This may cause exhaust gases to get inside. Engine exhaust contains carbon monoxide (CO), which cannot be seen or smelled. It can cause unconsciousness and even death.

If the vehicle is stuck in snow:

- Clear snow from the base of the vehicle, especially any blocking the exhaust pipe.
- Open a window about 5 cm (2 in) on the vehicle side that is away from the wind, to bring in fresh air.
- Fully open the air outlets on or under the instrument panel.
- Adjust the climate control system to circulate the air inside the vehicle and set

(Continued)

Warning (Continued)

the fan speed to the highest setting. See “Climate Control Systems.”

For more information about CO, see *Engine Exhaust* ⇨ *170*.

To save fuel, run the engine for short periods to warm the vehicle and then shut the engine off and partially close the window. Moving about to keep warm also helps.

If it takes time for help to arrive, when running the engine, push the accelerator pedal slightly so the engine runs faster than the idle speed. This keeps the battery charged to restart the vehicle and to signal for help with the headlamps. Do this as little as possible, to save fuel.

If the Vehicle Is Stuck

Slowly and cautiously spin the wheels to free the vehicle when stuck in sand, mud, ice, or snow.

If stuck too severely for the traction system to free the vehicle, turn the traction system off and use the rocking method. See *Traction Control/Electronic Stability Control* ⇨ *176*.

⚠ Warning

If the vehicle's tires spin at high speed, they can explode, and you or others could be injured. The vehicle can overheat, causing an engine compartment fire or other damage. Spin the wheels as little as possible and avoid going above 56 km/h (35 mph).

Rocking the Vehicle to Get it Out

Turn the steering wheel left and right to clear the area around the front wheels. Turn off any traction system. Shift back and forth between R (Reverse) and a low forward gear, spinning the wheels as little as possible. To prevent transmission wear, wait until the wheels stop spinning before shifting

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gears. Release the accelerator pedal while shifting, and press lightly on the accelerator pedal when the transmission is in gear. Slowly spinning the wheels in the forward and reverse directions causes a rocking motion that could free the vehicle. If that does not get the vehicle out after a few tries, it might need to be towed out. If the vehicle does need to be towed out, see *Towing the Vehicle* ⇨ *265*.

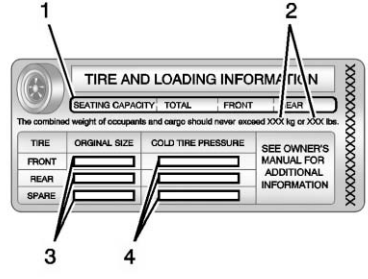
Vehicle Load Limits

It is very important to know how much weight the vehicle can carry. This weight is called the vehicle capacity weight and includes the weight of all occupants, cargo, and all nonfactory-installed options. Two labels on the vehicle may show how much weight it may properly carry, the Tire and Loading Information label and the Certification/Tire label.

⚠ Warning

Do not load the vehicle any heavier than the Gross Vehicle Weight Rating (GVWR), or either the maximum front or rear Gross Axle Weight Rating (GAWR). This can cause systems to break and change the way the vehicle handles. This could cause loss of control and a crash. Overloading can also reduce stopping distance, damage the tires, and shorten the life of the vehicle.

Tire and Loading Information Label



Example Label

A vehicle-specific Tire and Loading Information label is attached to the center pillar (B-pillar). The tire and loading information label shows the number of occupant seating positions (1), and the maximum vehicle capacity weight (2) in kilograms and pounds.

The Tire and Loading Information label also shows the size of the original equipment tires (3) and the recommended

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cold tire inflation pressures (4). For more information on tires and inflation see *Tires* ⇨ *235* and *Tire Pressure* ⇨ *242*.

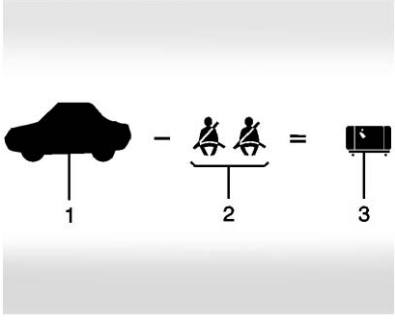
There is also important loading information on the vehicle Certification/Tire label. It may show the Gross Vehicle Weight Rating (GVWR) and the Gross Axle Weight Rating (GAWR) for the front and rear axle. See “Certification/Tire Label” later in this section.

“Steps for Determining Correct Load Limit–

1. Locate the statement "The combined weight of occupants and cargo should never exceed XXX kg or XXX lbs." on your vehicle’s placard.
2. Determine the combined weight of the driver and passengers that will be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXX kg or XXX lbs.
4. The resulting figure equals the available amount of cargo and luggage load capacity. For example, if the "XXX" amount equals 1400 lbs. and there will be five 150 lb passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lbs. (1400-750 (5 x 150) = 650 lbs.)
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step 4.
6. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage load capacity of your vehicle.”

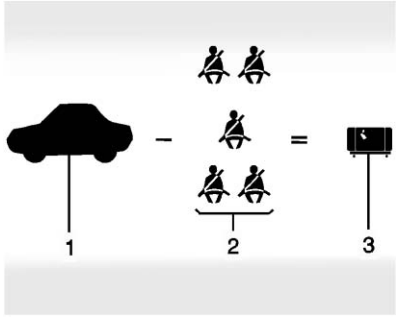
See *Trailer Towing* ⇨ *197* for important information on towing a trailer, towing safety rules and trailering tips.

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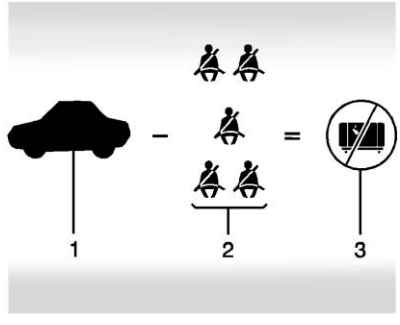
Example 1

1. Vehicle Capacity Weight for Example 1 = 453 kg (1,000 lbs).
2. Subtract Occupant Weight @ 68 kg (150 lbs) × 2 = 136 kg (300 lbs).
3. Available Occupant and Cargo Weight = 317 kg (700 lbs).



Example 2

1. Vehicle Capacity Weight for Example 2 = 453 kg (1,000 lbs).
2. Subtract Occupant Weight @ 68 kg (150 lbs) × 5 = 340 kg (750 lbs).
3. Available Cargo Weight = 113 kg (250 lbs).



Example 3

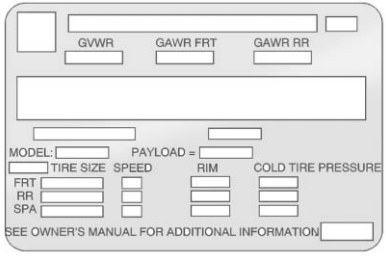
1. Vehicle Capacity Weight for Example 3 = 453 kg (1,000 lbs).
2. Subtract Occupant Weight @ 91 kg (200 lbs) × 5 = 453 kg (1,000 lbs).
3. Available Cargo Weight = 0 kg (0 lbs).

Refer to the vehicle's tire and loading information label for specific information about the vehicle's capacity weight and seating positions. The combined

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weight of the driver, passengers, and cargo should never exceed the vehicle's capacity weight.

Certification/Tire Label



Label Example

A vehicle-specific Certification/ Tire label is attached to the center pillar (B-pillar).

The label may show the size of the vehicle's original tires and the inflation pressures needed to obtain the gross weight capacity of the vehicle. The label shows the gross weight capacity of the vehicle. This is called the Gross Vehicle Weight Rating (GVWR). The GVWR includes the weight of the vehicle, all occupants, fuel, and cargo.

The Certification/Tire label may also show the maximum weights for the front and rear axles, called the Gross Axle Weight Rating (GAWR). To find out the actual loads on the front and rear axles, weigh the vehicle at a weigh station. Your dealer can help with this. Be sure to spread the load equally on both sides of the centerline.

Caution

Overloading the vehicle may cause damage. Repairs would not be covered by the vehicle warranty. Do not overload the vehicle.

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⚠ Warning

Things inside the vehicle can strike and injure people in a sudden stop or turn, or in a crash.

- Put things in the cargo area of the vehicle. In the cargo area, put them as far forward as possible. Try to spread the weight evenly.
- Never stack heavier things, like suitcases, inside the vehicle so that some of them are above the tops of the seats.
- Do not leave an unsecured child restraint in the vehicle.
- Secure loose items in the vehicle.
- Do not leave a seat folded down unless needed.

Starting and Operating

New Vehicle Break-In

Caution

The vehicle does not need an elaborate break-in. But it will perform better in the long run if you follow these guidelines:

- Do not drive at any one constant speed, fast or slow, for the first 805 km (500 mi). Do not make full-throttle starts. Avoid downshifting to brake or slow the vehicle.
- Avoid making hard stops for the first 322 km (200 mi) or so. During this time the new brake linings are not yet broken in. Hard stops with new linings can mean premature wear and earlier replacement. Follow this

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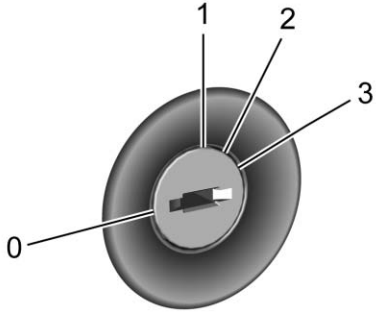
Caution (Continued)

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breaking-in guideline every time you get new brake linings.

Following break-in, engine speed and load can be gradually increased.

Ignition Positions



The ignition switch has four different positions.

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Caution

Using a tool to force the key to turn in the ignition could cause damage to the switch or break the key. Use the correct key, make sure it is all the way in, and turn it only with your hand. If the key cannot be turned by hand, see your dealer.

The key must be fully extended to start the vehicle.

To shift out of P (Park), turn the ignition to ON/RUN and apply the brake pedal.

0 (STOPPING THE ENGINE/LOCK/OFF) : When the vehicle is stopped, turn the ignition switch to LOCK/OFF to turn the engine off. Retained Accessory Power (RAP) will remain active. See *Retained Accessory Power (RAP)* ⇨ *167*.

This locks the steering wheel, ignition and automatic transmission.

This is the only position from which the key can be removed. If the key cannot be removed, make sure the shift lever is in P (Park).

The ignition switch can bind in the LOCK/OFF position with the wheels turned off center. If this happens, move the steering wheel from right to left while turning the key to ACC/ACCESSORY. If this does not work, then the vehicle needs service.

Do not turn the engine off when the vehicle is moving. This will cause a loss of power assist in the brake and steering systems and disable the airbags.

If the vehicle must be shut off in an emergency:

1. Brake using a firm and steady pressure. Do not pump the brakes repeatedly. This may deplete power assist, requiring increased brake pedal force.
2. Shift the vehicle to N (Neutral). This can be done while the vehicle is moving. After shifting to N (Neutral), firmly apply the brakes and steer the vehicle to a safe location.
3. Come to a complete stop, shift to P (Park), and turn the ignition to LOCK/OFF. On vehicles with an automatic transmission, the shift lever must be in P (Park) to turn the ignition switch to the LOCK/OFF position.
4. Set the parking brake. See *Parking Brake* ⇨ *175*.

⚠ Warning

Turning off the vehicle while moving may cause loss of power assist in the brake and steering systems and disable the airbags. While driving, only shut the vehicle off in an emergency.

If the vehicle cannot be pulled over, and must be shut off while driving, turn the ignition to ACC/ACCESSORY.

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1 (ACC/ACCESSORY) : This position provides power to some of the electrical accessories. It unlocks the steering wheel and ignition. To move the key from ACC/ACCESSORY to LOCK/OFF, push in the key and then turn it to LOCK/OFF.

2 (ON/RUN) : The ignition switch stays in this position when the engine is running. This position can be used to operate the electrical accessories, including the ventilation fan and 12-volt power outlets, as well as to display some warning and indicator lights. This position can also be used for service and diagnostics, and to verify the proper operation of the malfunction indicator lamp as may be required for emission inspection purposes. The transmission is also unlocked in this position on automatic transmission vehicles.

The battery could be drained if the key is left in the ACC/ACCESSORY or ON/RUN position with the engine off. The vehicle might not start if the battery is allowed to drain for an extended period of time.

3 (START) : This position starts the engine. When the engine starts, release the key. The ignition switch will return to ON/RUN for normal driving.

A warning tone sounds when the driver door is opened if the ignition is still in ACC/ACCESSORY and the key is in the ignition. If the ignition becomes difficult to turn, see *Keys ⇨ 25*.

Starting the Engine

Move the shift lever to P (Park) or N (Neutral). To restart the vehicle when it is already moving, use N (Neutral) only.

Caution

Do not try to shift to P (Park) if the vehicle is moving. If you do, you could damage the transmission. Shift to P (Park) only when the vehicle is stopped.

Caution

If you add electrical parts or accessories, you could change the way the engine operates. Any resulting damage would not be covered by the vehicle warranty. See *Add-On Electrical Equipment ⇨ 200*.

Caution

If the steering wheel is turned until it reaches the end of its travel, and is held in that position while starting the vehicle, damage may occur to the hydraulic power steering system and there may be loss of power steering assist.

Starting Procedure

1. With your foot off the accelerator pedal, turn the ignition key to START. When the engine starts, let go of the key. The idle speed will go down as the engine warms. Do not race the engine immediately after starting it. Operate the engine and transmission gently to allow the oil to warm up and lubricate all moving parts.

Caution

Cranking the engine for long periods of time, by returning the ignition to the START position immediately after cranking has ended, can overheat and damage the cranking motor, and drain the battery. Wait at least 15 seconds between each try, to let the cranking motor cool down.

2. If the engine does not start after five to 10 seconds, especially in very cold weather (below −18 °C or 0 °F), it could be flooded with too much gasoline. Push the accelerator pedal all the way to the floor and hold it there as you hold the key in START for a maximum of 15 seconds. Wait at least 15 seconds between

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each try, to allow the cranking motor to cool. When the engine starts, let go of the key and accelerator. If the vehicle starts briefly but then stops again, repeat the procedure. This clears the extra gasoline from the engine. Do not race the engine immediately after starting it. Operate the engine and transmission gently until the oil warms up and lubricates all moving parts.

Retained Accessory Power (RAP)

These vehicle accessories can be used for up to 10 minutes after the engine is turned off:

- Audio System
- Power Windows
- Sunroof (if equipped)

Power to the audio system will continue to operate for up to 10 minutes or until the driver door is opened.

Power to the power windows and sunroof will continue to operate for up to 10 minutes or until any door is opened.

All these features will work when the key is in ON/RUN or ACC/ ACCESSORY.

Engine Coolant Heater

The engine coolant heater, if available, can help in cold weather conditions at or below −18 °C (0 °F) for easier starting and better fuel economy during engine warm-up. Plug in the coolant heater at least four hours before starting the vehicle. An internal thermostat in the plug end of the cord will prevent engine coolant heater operation at temperatures above −18 °C (0 °F).

To Use The Engine Coolant Heater

1. Turn off the engine.
2. Open the hood and unwrap the electrical cord.

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The electrical cord is on the passenger side of the engine compartment, in front of the air cleaner.

Check the heater cord for damage. If it is damaged, do not use it. See your dealer for a replacement. Inspect the cord for damage yearly.

3. Plug it into a normal, grounded 110-volt AC outlet.

⚠ Warning

Improper use of the heater cord or an extension cord can damage the cord and may result in overheating and fire.

- Plug the cord into a three-prong electrical utility receptacle that is protected by a ground fault detection

(Continued)

Warning (Continued)

function. An ungrounded outlet could cause an electric shock.

- Use a weatherproof, heavy-duty, 15 amp-rated extension cord if needed. Failure to use the recommended extension cord in good operating condition, or using a damaged heater or extension cord, could make it overheat and cause a fire, property damage, electric shock, and injury.
- Do not operate the vehicle with the heater cord permanently attached to the

(Continued)

Warning (Continued)

vehicle. Possible heater cord and thermostat damage could occur.

- While in use, do not let the heater cord touch vehicle parts or sharp edges. Never close the hood on the heater cord.
- Before starting the vehicle, unplug the cord, reattach the cover to the plug, and securely fasten the cord. Keep the cord away from any moving parts.

4. Before starting the engine, be sure to unplug and store the cord as it was before to keep it away from moving engine parts. If you do not it could be damaged.

The length of time the heater should remain plugged in depends on several factors. Ask a dealer in the area where you will be parking the vehicle for the best advice on this.

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Shifting Into Park

⚠ Warning

It can be dangerous to get out of the vehicle if the shift lever is not fully in P (Park) with the parking brake firmly set. The vehicle can roll. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground, use the steps that follow. If you are pulling a trailer, see *Driving Characteristics and Towing Tips* ⇨ *194*.

To shift into P (Park):

1. Hold the brake pedal down and set the parking brake.

 See *Parking Brake* ⇨ *175* for more information.

2. Hold the button on the shift lever and push the lever toward the front of the vehicle into P (Park).

3. Turn the ignition to LOCK/OFF.
4. Remove the key.

Leaving the Vehicle With the Engine Running

⚠ Warning

It can be dangerous to leave the vehicle with the engine running. It could overheat and catch fire.

It is dangerous to get out of the vehicle if the shift lever is not fully in P (Park) with the parking brake firmly set. The vehicle can roll.

Do not leave the vehicle when the engine is running. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground, always set the parking brake and move the shift lever to P (Park). See *Shifting Into Park* ⇨ *168*. If you are towing a trailer, see *Driving Characteristics and Towing Tips* ⇨ *194*.

If you have to leave the vehicle with the engine running, the vehicle must be in P (Park) and the parking brake set.

Release the button and check that the shift lever cannot be moved out of P (Park).

Torque Lock

Torque lock is when the weight of the vehicle puts too much force on the parking pawl in the transmission. This happens when parking on a hill and shifting the transmission into P (Park) is not done properly and then it is difficult to shift out of P (Park). To prevent torque lock, set the parking brake and then shift into P (Park). To find out how, see “Shifting Into Park” listed previously.

If torque lock does occur, the vehicle may need to be pushed uphill by another vehicle to relieve the parking pawl pressure, so you can shift out of P (Park).

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Shifting out of Park

To shift out of P (Park):

1. Apply the brake pedal.
2. Turn the ignition to ON/RUN.
3. Press the shift lever button.
4. Move the shift lever.

If you still are unable to shift out of P (Park):

1. Fully release the shift lever button.
2. Hold the brake pedal down and press the shift lever button again.
3. Move the shift lever.

If you still cannot move the shift lever from P (Park), see your dealer for service.

Parking over Things That Burn

⚠ Warning

Things that can burn could touch hot exhaust parts under the vehicle and ignite. Do not park over papers, leaves, dry grass, or other things that can burn.

Engine Exhaust

⚠ Warning

Engine exhaust contains carbon monoxide (CO), which cannot be seen or smelled. Exposure to CO can cause unconsciousness and even death.

Exhaust may enter the vehicle if:

- The vehicle idles in areas with poor ventilation (parking garages, tunnels, deep snow that may block underbody airflow or tail pipes).
- The exhaust smells or sounds strange or different.
- The exhaust system leaks due to corrosion or damage.
- The vehicle exhaust system has been modified, damaged, or improperly repaired.

(Continued)

Warning (Continued)

- There are holes or openings in the vehicle body from damage or aftermarket modifications that are not completely sealed.

If unusual fumes are detected or if it is suspected that exhaust is coming into the vehicle:

- Drive it only with the windows completely down.
- Have the vehicle repaired immediately.

Never park the vehicle with the engine running in an enclosed area such as a garage or a building that has no fresh air ventilation.

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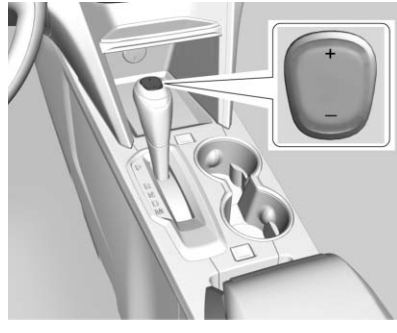
Running the Vehicle While Parked

It is better not to park with the engine running.

If the vehicle is left with the engine running, follow the proper steps to be sure the vehicle will not move. See *Shifting Into Park* ⇨ *168* and *Engine Exhaust* ⇨ *170*.

If parking on a hill and pulling a trailer, see *Driving Characteristics and Towing Tips* ⇨ *194*.

Automatic Transmission



P : This position locks the front wheels. Use P (Park) when starting the engine because the vehicle cannot move easily.

⚠ Warning

It is dangerous to get out of the vehicle if the shift lever is not fully in P (Park) with the parking brake firmly set. The vehicle can roll.

(Continued)

Warning (Continued)

Do not leave the vehicle when the engine is running. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground, always set the parking brake and move the shift lever to P (Park). See *Shifting Into Park* ⇨ *168* and *Driving Characteristics and Towing Tips* ⇨ *194*.

The vehicle has an automatic transmission shift lock control system. You must fully apply the regular brake first and then press the shift lever button before shifting from P (Park) when the ignition key is in ON/RUN. If you cannot shift out of P (Park), ease pressure on the shift lever, then push the shift lever all the way into P (Park) as you maintain brake application. Then press the shift lever button and move the shift lever into another gear. See *Shifting out of Park* ⇨ *169*.

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R : Use this gear to back up.

Caution

Shifting to R (Reverse) while the vehicle is moving forward could damage the transmission. The repairs would not be covered by the vehicle warranty. Shift to R (Reverse) only after the vehicle is stopped.

To rock the vehicle back and forth to get out of snow, ice or sand without damaging the transmission, see *If the Vehicle Is Stuck* ⇨ *159*.

N : In this position the engine and transmission do not connect. Use N (Neutral) to restart a vehicle that is already moving.

⚠ Warning

Shifting into a drive gear while the engine is running at high speed is dangerous. Unless your foot is firmly on the brake pedal, the

(Continued)

Warning (Continued)

vehicle could move very rapidly. You could lose control and hit people or objects. Do not shift into a drive gear while the engine is running at high speed.

Caution

Shifting out of P (Park) or N (Neutral) with the engine running at high speed may damage the transmission. The repairs would not be covered by the vehicle warranty. Be sure the engine is not running at high speed when shifting the vehicle.

D : This position is for normal driving. It provides the best fuel economy. If you need more power for passing, and you are:

- Going less than 56 km/h (35 mph), push the accelerator pedal about halfway down.
- Going about 56 km/h (35 mph) or more, push the accelerator all the way down.

Caution

If the vehicle does not shift gears, the transmission could be damaged. Have the vehicle serviced right away.

Caution

Spinning the tires or holding the vehicle in one place on a hill using only the accelerator pedal may damage the transmission. The repair will not be covered by the vehicle warranty. If you are stuck, do not spin the tires. When stopping on a hill, use the brakes to hold the vehicle in place.

M : Allows the driver to select the range of gear positions. See *Manual Mode* ⇨ *173*.

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Operating Modes

The transmission may operate in a lower gear than normal to improve vehicle performance. The engine speed may be higher and there may be an increase in noise during the following conditions:

- When climbing a grade.
- When driving downhill.
- When driving in hot temperatures or at high altitude.

Manual Mode

Electronic Range Select (ERS) Mode

ERS or manual mode allows for the selection of the range of gear positions. Use this mode when driving downhill or towing a trailer to limit the top gear and vehicle speed. The shift position indicator within the Driver Information Center (DIC) will display a number next to the M indicating the highest available gear under manual mode and the driving conditions when manual mode was selected.

To use this feature:

1. Move the shift lever to M (Manual Mode).
2. Press the plus/minus button on the shift lever, to increase or decrease the gear range available.

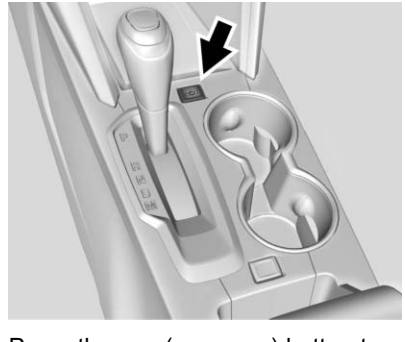
When shifting to M (Manual Mode), the transmission will shift to a preset lower gear range. For this preset range, the highest gear available is displayed next to the M in the DIC. See *Driver Information Center (DIC)* ⇨ *114* for more information. All gears below that number are available to use. For example, when 4 (Fourth) is shown next to the M, 1 (First) through 4 (Fourth) gears are shifted automatically. To shift to 5 (Fifth) gear, press the + (Plus) button or shift into D (Drive).

M (Manual Mode) will prevent shifting to a lower gear range if the engine speed is too high. If vehicle speed is not reduced within the time allowed, the lower gear range shift will not be completed. Slow the vehicle, then press the − (Minus) button to the desired lower gear range.

While using the ERS, cruise control can be used.

Fuel Economy Mode

Vehicles with a 2.4L engine have a Fuel Economy Mode. When engaged, Fuel Economy Mode can improve the vehicle's fuel economy.



Press the eco (economy) button to turn this feature on or off. The eco light in the instrument cluster will come on when engaged. See *Fuel Economy Light* ⇨ *113*. A Driver

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Information Center (DIC) message is also displayed. See *Fuel System Messages* ⇨ *120*.

When Fuel Economy Mode is on:

- The transmission will upshift sooner and downshift later.
- The torque converter clutch will apply sooner and stay on longer.
- The gas pedal will be less sensitive.
- The vehicle's computer will more aggressively shut off fuel to the engine under deceleration.
- The engine idle speed will be lower.
- Driving performance is more conservative.
- The climate controls may take longer to heat or cool the cabin.
- The rear defogger will stay on for shorter periods of time.

Drive Systems

All-Wheel Drive

Vehicles with this feature transfer engine power, as required, to all four wheels. It is fully automatic, and adjusts itself as needed for road conditions.

When using a compact spare tire on an AWD vehicle, the system automatically detects the compact spare and reduces AWD performance to protect the system. To restore full AWD operation and prevent excessive wear on the system, replace the compact spare with a full-size tire as soon as possible. See *Compact Spare Tire* ⇨ *261*.

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Brakes

Antilock Brake System (ABS)

This vehicle has an Antilock Brake System (ABS), an advanced electronic braking system that helps prevent a braking skid.

When the vehicle begins to drive away, ABS checks itself.
A momentary motor or clicking noise may be heard while this test is going on, and it may even be noticed that the brake pedal moves a little. This is normal.



If there is a problem with ABS, this warning light stays on. See *Antilock Brake System (ABS) Warning Light* ⇨ *110*.

If driving safely on a wet road and it becomes necessary to slam on the brakes and continue braking to avoid a sudden obstacle, a computer senses the wheels are slowing down. If one of the wheels is about to stop rolling, the computer will separately work the brakes at each wheel.

ABS can change the brake pressure to each wheel, as required, faster than any driver could. This can help you steer around the obstacle while braking hard.

As the brakes are applied, the computer keeps receiving updates on wheel speed and controls braking pressure accordingly.

Remember: ABS does not change the time needed to get a foot up to the brake pedal or always decrease stopping distance. If you get too close to the vehicle in front of you, there will not be enough time to apply the brakes if that vehicle suddenly slows or stops. Always leave enough room up ahead to stop, even with ABS.

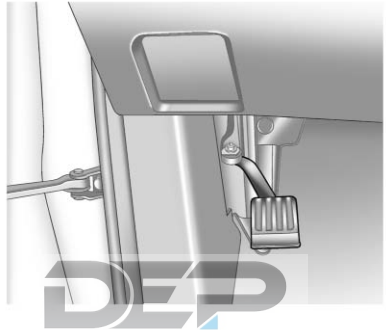
Using ABS

Do not pump the brakes. Just hold the brake pedal down firmly and let ABS work. You may hear the ABS pump or motor operating and feel the brake pedal pulsate. This is normal.

Braking in Emergencies

ABS allows you to steer and brake at the same time. In many emergencies, steering can help more than even the very best braking.

Parking Brake



To set the parking brake, hold the regular brake pedal down, then push the parking brake pedal down.

If the ignition is on, the brake system warning light will come on. See *Brake System Warning Light* ⇨ *109*.

Caution
Driving with the parking brake on can overheat the brake system and cause premature wear or damage to brake system parts. Make sure that the parking brake is fully released and the brake warning light is off before driving.

To release the parking brake, hold the regular brake pedal down, then push down momentarily on the parking brake pedal until you feel the pedal release. Slowly pull your foot up off the parking brake pedal. If the parking brake is not released when you begin to drive, the brake system warning light will be on and a chime will sound warning you that the parking brake is still on.

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If you are towing a trailer and are parking on a hill, see *Driving Characteristics and Towing Tips* ⇨ *194*.

Brake Assist

The Brake Assist feature is designed to assist the driver in stopping or decreasing vehicle speed in emergency driving conditions. This feature uses the stability system hydraulic brake control module to supplement the power brake system under conditions where the driver has quickly and forcefully applied the brake pedal in an attempt to quickly stop or slow down the vehicle. The stability system hydraulic brake control module increases brake pressure at each corner of the vehicle until the ABS activates. Minor brake pedal pulsation or pedal movement during this time is normal and the driver should continue to apply the brake pedal as the driving situation dictates. The Brake Assist feature will automatically disengage when the brake pedal is released or brake pedal pressure is quickly decreased.

Hill Start Assist (HSA)

This vehicle has a Hill Start Assist (HSA) feature, which may be useful when the vehicle is stopped on a grade sufficient enough to activate HSA. This feature is designed to prevent the vehicle from rolling, either forward or rearward, during vehicle drive off. After the driver completely stops and holds the vehicle in a complete standstill on a grade, HSA will be automatically activated. During the transition period between when the driver releases the brake pedal and starts to accelerate to drive off on a grade, HSA holds the braking pressure for a maximum of two seconds to ensure that there is no rolling. The brakes will automatically release when the accelerator pedal is applied within the two-second window. It will not activate if the vehicle is in a drive gear and facing downhill, or if the vehicle is facing uphill and in R (Reverse).

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Ride Control Systems

Traction Control/ Electronic Stability Control

System Operation

The vehicle has a Traction Control System (TCS) and StabiliTrak®, an electronic stability control system. These systems help limit wheel slip and assist the driver in maintaining control, especially on slippery road conditions.

TCS activates if it senses that any of the drive wheels are spinning or beginning to lose traction. When this happens, TCS applies the brakes to the spinning wheels and reduces engine power to limit wheel spin.

StabiliTrak activates when the vehicle senses a difference between the intended path and the direction the vehicle is actually traveling. StabiliTrak selectively applies braking pressure to any one of the

vehicle wheel brakes to assist the driver in keeping the vehicle on the intended path.

If cruise control is being used and traction control or StabiliTrak begins to limit wheel spin, cruise control will disengage. Cruise control may be turned back on when road conditions allow.

Both systems come on automatically when the vehicle is started and begins to move. The systems may be heard or felt while they are operating or while performing diagnostic checks. This is normal and does not mean there is a problem with the vehicle.

It is recommended to leave both systems on for normal driving conditions, but it may be necessary to turn TCS off if the vehicle gets stuck in sand, mud, ice, or snow. See *If the Vehicle Is Stuck* ⇨ *159* and "Turning the Systems Off and On" later in this section.



The indicator light for both systems is in the instrument cluster. This light will:

- Flash when TCS is limiting wheel spin.
- Flash when StabiliTrak is activated.
- Turn on and stay on when either system is not working.

If either system fails to turn on or to activate, a message displays in the Driver Information Center (DIC), and comes on and stays on to indicate that the system is inactive and is not assisting the driver in maintaining control. The vehicle is safe to drive, but driving should be adjusted accordingly.

If comes on and stays on:

1. Stop the vehicle.
2. Turn the engine off and wait 15 seconds.
3. Start the engine.

Drive the vehicle. If comes on and stays on, the vehicle may need more time to diagnose the problem. If the condition persists, see your dealer.

Turning the Systems Off and On



The button for TCS and StabiliTrak is on the center console.

Caution
Do not repeatedly brake or accelerate heavily when TCS is off. The vehicle driveline could be damaged.

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To turn off only TCS, press and release OFF. The traction off light displays in the instrument cluster and the appropriate DIC message displays. See *Ride Control System Messages* ⇨ *122*.

To turn TCS on again, press and release OFF. The traction off light displayed in the instrument cluster will turn off.

If TCS is limiting wheel spin when OFF is pressed, the system will not turn off until the wheels stop spinning.

To turn off both TCS and StabiliTrak, press and hold OFF until the traction off light and StabiliTrak OFF light OFF come on and stay on in the instrument cluster. The appropriate DIC message displays. See *Ride Control System Messages* ⇨ *122*.

To turn TCS and StabiliTrak on again, press and release OFF. The traction off light and StabiliTrak OFF light OFF in the instrument cluster turn off.

Adding accessories can affect the vehicle performance. See *Accessories and Modifications* ⇨ *202*.

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Cruise Control

With cruise control, the vehicle can maintain a speed of about 40 km/h (25 mph) or more without keeping your foot on the accelerator. Cruise control does not work at speeds below 40 km/h (25 mph).

⚠ Warning

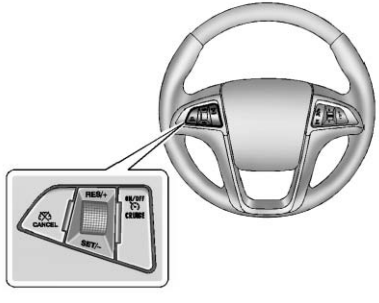
Cruise control can be dangerous where you cannot drive safely at a steady speed. Do not use cruise control on winding roads or in heavy traffic.

Cruise control can be dangerous on slippery roads. On such roads, fast changes in tire traction can cause excessive wheel slip, and you could lose control. Do not use cruise control on slippery roads.

If equipped with the StabiliTrak® system, the system may begin to limit wheel spin while you are using cruise control. If this happens, the cruise control will automatically

disengage. See *Traction Control/ Electronic Stability Control* ⇨ *176*. If a collision alert occurs when cruise control is activated, cruise control is disengaged. See *Forward Collision Alert (FCA) System* ⇨ *184*. When road conditions allow you to safely use it again, cruise control can be turned back on.

If the brakes are applied, cruise control is disengaged.



CRUISE : Press to turn cruise control on or off.

CANCEL : Press to disengage cruise control without erasing the set speed from memory.

RES/+ : If there is a set speed in memory, move the thumbwheel up briefly to resume to that speed or hold upward to accelerate. If cruise control is already active, use to increase vehicle speed.

SET/− : Move the thumbwheel down briefly to set the speed and activate cruise control. If cruise control is already active, use to decrease speed.

Setting Cruise Control

If the CRUISE button is on when not in use, SET/− or RES/+ could get bumped and go into cruise when not desired. Keep CRUISE turned off when cruise control is not being used.

1. Press CRUISE to turn the cruise system on.
2. Get up to the speed desired.
3. Move the thumbwheel toward SET/− and release it. The desired set speed briefly appears in the Driver Information Center (DIC) display.
4. Remove foot from the accelerator.

Resuming a Set Speed

If the cruise control is set at a desired speed and then the brakes are applied or CANCEL is pressed, the cruise control is disengaged without erasing the set speed from memory.

Once the vehicle reaches about 40 km/h (25 mph) or more, move the thumbwheel up toward RES/+ briefly. The vehicle returns to the previously set speed.

Increasing Speed While Using Cruise Control

If the cruise control system is already activated:

- Move the thumbwheel up toward RES/+ and hold it until the vehicle accelerates to the desired speed, then release it.
- To increase vehicle speed in small increments, move the thumbwheel up toward RES/+

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briefly. For each press, the vehicle goes about 1.6 km/h (1 mph) faster.

The speedometer reading can be displayed in either English or metric units. See *Instrument Cluster* ⇨ *102*. The increment value used depends on the units displayed.

Reducing Speed While Using Cruise Control

If the cruise control system is already activated:

- Move the thumbwheel toward SET/− and hold until the desired lower speed is reached, then release it.
- To decrease the vehicle speed in small increments, move the thumbwheel toward SET/− briefly. For each press, the vehicle goes about 1.6 km/h (1 mph) slower.

The speedometer reading can be displayed in either English or metric units. See *Instrument Cluster* ⇨ *102*. The increment value used depends on the units displayed.

Passing Another Vehicle While Using Cruise Control

Use the accelerator pedal to increase the vehicle speed. When you take your foot off the pedal, the vehicle slows down to the previously set cruise control speed. While pressing the accelerator pedal or shortly following the release to override cruise control, briefly moving the thumbwheel toward SET/− will result in cruise set to the current vehicle speed.

Using Cruise Control on Hills

How well the cruise control works on hills depends upon the vehicle speed, load, and the steepness of the hills. When going up steep hills, you might have to step on the accelerator pedal to maintain the vehicle speed. When going downhill, you might have to brake or shift to a lower gear to maintain the vehicle speed. When the brakes are applied, the cruise control is disengaged.

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Ending Cruise Control

There are four ways to end cruise control:

- Step lightly on the brake pedal.
- Press CANCEL.
- Shift the transmission to N (Neutral).
- To turn off cruise control, press CRUISE.

Erasing Speed Memory

The cruise control set speed is erased from memory if CRUISE is pressed or if the vehicle is turned off.

Driver Assistance Systems

Rear Vision Camera (RVC)

If equipped, the RVC can assist the driver when backing up by displaying a view of the area behind the vehicle.

⚠ Warning

The camera(s) do not display children, pedestrians, bicyclists, crossing traffic, animals, or any other object outside of the cameras' field of view, below the bumper, or under the vehicle. Shown distances may be different from actual distances. Do not drive or park the vehicle using only these camera(s). Always check behind and around the vehicle before driving. Failure to use proper care may result in injury, death, or vehicle damage.

An image appears on the infotainment screen when the vehicle is shifted into R (Reverse). The infotainment screen goes to the previous screen after approximately 10 seconds once the vehicle is shifted out of R (Reverse).

To see the previous screen sooner, do one of the following:

- Press a hard key on the navigation system.
- Shift into P (Park).

Press MENU to adjust the display brightness while viewing the rear camera display.

Symbols and Guidelines

The RVC system may have a feature that lets the driver view parking assist symbols on the infotainment screen while using the RVC. The Rear Parking Assist (RPA) system must not be disabled to use the caution symbols. The error message Rear Parking Assist Symbols Unavailable may display if RPA has been disabled and the symbols have been turned on. See *Parking Assist* ⇨ *183*.

Rear Cross Traffic Alert (RCTA)

On vehicles with RCTA, a triangle with an arrow may display on the RVC screen to warn of traffic coming from either direction. This system detects objects coming from up to 20 m (65 ft) from the left or right side, behind the vehicle. When an object is detected, three beeps sound from the left or right side, depending on the direction of the detected vehicle.

The parking assist and RCTA symbols appear and may cover an object when viewing the infotainment screen when an object is detected by the RPA or RCTA system.

The RVC system may also have a guideline overlay that can help the driver align the vehicle when backing into a parking spot.

To turn the symbols or guidelines on or off:

1. Shift into P (Park).
2. Press the CONFIG button.
3. Select Display Settings.

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4. Select Rear Camera Options.
5. Select Symbols or Guide Lines. The feature is on when a check mark appears next to it.

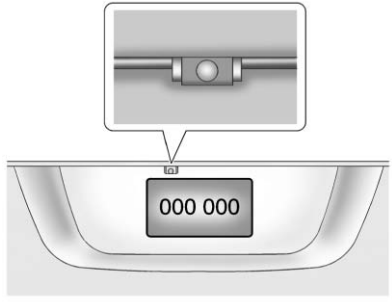
RCTA can be turned on or off through vehicle personalization. See “Collision Detection Systems” under *Vehicle Personalization* ⇨ *124*.

Rear Vision Camera Error Messages

SERVICE REAR VISION CAMERA SYSTEM : This message can display on the infotainment screen when the system is not working properly.

If any other problem occurs or if a problem persists, see your dealer.

Rear Vision Camera Location

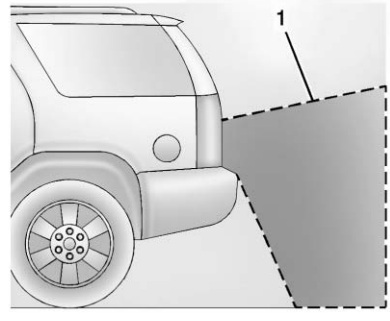


The camera is above the license plate.

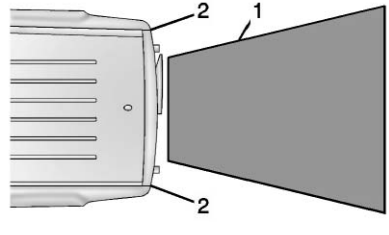
The area displayed by the camera is limited.

It does not display objects that are close to either corner or under the bumper and can vary depending on vehicle orientation or road conditions. Displayed images may be farther or closer than they appear.

The following illustrations show the field of view that the camera provides.



1. View Displayed by the Camera



1. View Displayed by the Camera
2. Corner of the Rear Bumper

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When the System Does Not Seem To Work Properly

The RVC system may not work properly or display a clear image if:

- It is dark.
- The sun or the beam of headlamps is shining directly into the camera lens.
- Ice, snow, mud, or anything else builds up on the camera lens. Clean the lens, rinse it with water, and wipe it with a soft cloth.
- The back of the vehicle is in an accident. The position and mounting angle of the camera can change or the camera can be affected. Be sure to have the camera and its position and mounting angle checked at your dealer.

Parking Assist

For vehicles with the Rear Parking Assist (RPA) system, it assists the driver with parking and avoiding objects while in R (Reverse). RPA operates at speeds less than 8 km/h (5 mph), and the sensors on the rear bumper detect objects up to 2.5 m (8 ft) behind the vehicle, and at least 20 cm (8 in) off the ground. The distance objects can be detected may be less during warmer or humid weather.

⚠ Warning

The parking assist system does not detect children, pedestrians, bicyclists, animals, or objects below the bumper or that are too close or too far from the vehicle. It is not available at speeds greater than 8 km/h (5 mph). To prevent injury, death, or vehicle damage, even with parking assist, always check the area around the vehicle and check all mirrors before backing.

How the System Works

RPA comes on automatically when the shift lever is moved into R (Reverse). A single beep sounds to indicate the system is working. RPA operates only at speeds less than 8 km/h (5 mph).

A detected obstacle is indicated by audible beeps. The interval between the beeps becomes shorter as the vehicle gets closer to the obstacle. When the distance is less than 30 cm (12 in) the beeping is continuous for five seconds.

Turning the System On and Off

The RPA system can be turned on and off using the infotainment system controls. See *Vehicle Personalization* ⇨ *124* for more information.

The On with Tow Bar Attached setting allows for the parking assist to work properly with a small item attached to the trailer hitch.

When the system is off, PARK ASSIST OFF displays on the Driver Information Center (DIC). The message disappears after a short period of time.

RPA defaults to the on setting each time the vehicle is started.

Turn RPA off when towing a trailer.

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When the System Does Not Seem to Work Properly

The following messages may be displayed on the DIC:

SERVICE PARKING ASSIST : If this message occurs, check the following conditions:

- The sensors are not clean. Keep the vehicle's rear bumper free of mud, dirt, snow, ice, and slush. For cleaning instructions, see *Exterior Care* ⇨ *268*.
- The park assist sensors are covered by frost or ice. Frost or ice can form around and behind the sensors and may not always be seen; this can occur after washing the vehicle in cold weather. The message may not clear until the frost or ice has melted.

If the above conditions do not exist, take the vehicle to your dealer to repair the system.

PARK ASSIST OFF : If the RPA system does not activate due to a temporary condition, the message displays on the DIC. This can occur under the following conditions:

- The driver has disabled the system.
- A trailer was attached to the vehicle, or an object was hanging out of the liftgate during the last drive cycle. Once the object is removed, RPA will return to normal operation.
- A tow bar is attached to the vehicle.
- The bumper is damaged. Take the vehicle to your dealer to repair the system.
- Other conditions, such as vibrations from a jackhammer or the compression of air brakes on a very large truck, are affecting system performance.

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Forward Collision Alert (FCA) System

If equipped, the FCA system may help to avoid or reduce the harm caused by front-end crashes. When approaching a vehicle ahead too quickly, FCA provides a red flashing alert and rapidly beeps. FCA also lights a red visual alert if following another vehicle much too closely.

FCA detects vehicles within a distance of approximately 60 m (197 ft) and operates at speeds above 40 km/h (25 mph).

⚠ Warning

FCA is a warning system and does not apply the brakes. When approaching a slower-moving or stopped vehicle ahead too rapidly, or when following a vehicle too closely, FCA may not provide a warning with enough time to help avoid a crash. It also may not provide any warning at all. FCA does not warn of pedestrians,

(Continued)

Warning (Continued)

animals, signs, guardrails, bridges, construction barrels, or other objects. Be ready to take action and apply the brakes. See *Defensive Driving* ⇨ *149*.

FCA can be disabled with the FCA steering wheel control.

Detecting the Vehicle Ahead



FCA warnings will not occur unless the FCA system detects a vehicle ahead. When a vehicle is detected, the vehicle ahead indicator will display green. Vehicles may not be detected on curves, highway exit ramps, or hills, due to poor visibility; or if a vehicle ahead is partially blocked by pedestrians or other objects. FCA will not detect another vehicle ahead until it is completely in the driving lane.

⚠ Warning

FCA does not provide a warning to help avoid a crash, unless it detects a vehicle. FCA may not detect a vehicle ahead if the FCA sensor is blocked by dirt, snow, or ice, or if the windshield is damaged. It may also not detect a vehicle on winding or hilly roads, or in conditions that can limit visibility such as fog, rain, or snow, or if the headlamps or windshield are not cleaned or in proper condition. Keep the windshield, headlamps, and FCA sensors clean and in good repair.

Collision Alert



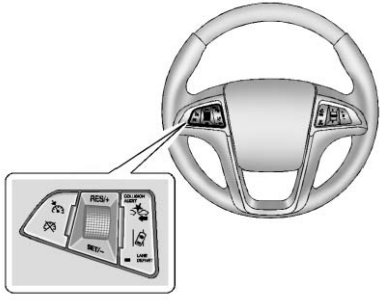
When your vehicle approaches another detected vehicle too rapidly, the red FCA display will flash and sound several high-pitched beeps from the front. When this Collision Alert occurs, the brake system may prepare for driver braking to occur more rapidly which can cause a brief, mild deceleration. Continue to apply the brake pedal as needed. Cruise control may be disengaged when the Collision Alert occurs.

Tailgating Alert

The red Collision Alert display will stay continuously illuminated when following a detected vehicle ahead much too closely.

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Selecting the Alert Timing



The Collision Alert control is on the steering wheel. Press COLLISION ALERT to set the FCA timing to far, medium, near, or off. The first button press shows the current control setting on the DIC. Additional button presses will change this setting. The chosen setting will remain until it is changed and will affect both the Collision Alert and the Tailgating Alert features. The timing of both alerts will vary based on vehicle speed. The faster the vehicle speed, the farther away the alert will occur. Consider traffic and weather conditions when selecting the alert timing. The range of selectable alert timing may not be appropriate for all drivers and driving conditions.

Unnecessary Alerts

FCA may provide unnecessary alerts for turning vehicles, vehicles in other lanes, objects that are not vehicles, or shadows. These alerts are normal operation and the vehicle does not need service.

Cleaning the System

If the FCA system does not seem to operate properly, cleaning the outside of the windshield in front of the rearview mirror may correct the issue.

Side Blind Zone Alert (SBZA)

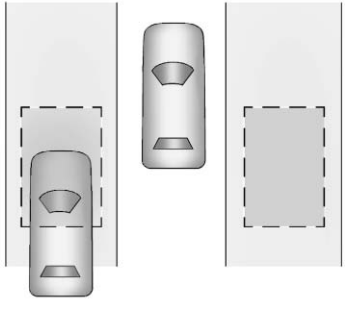
If equipped, the SBZA system is a lane-changing aid that assists drivers with avoiding crashes that occur with moving vehicles in the side blind zone (or spot) areas. The SBZA warning display will light up in the corresponding outside side mirror and will flash if the turn signal is on.

⚠ Warning

SBZA does not alert the driver to vehicles rapidly approaching outside of the side blind zones, pedestrians, bicyclists, or animals. It may not provide alerts when changing lanes under all driving conditions. Failure to use proper care when changing lanes may result in injury, death, or vehicle damage. Before making a lane change, always check mirrors, glance over your shoulder, and use the turn signals.

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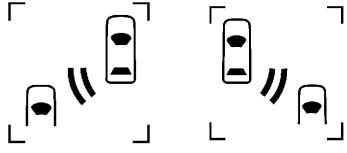
SBZA Detection Zones



The SBZA sensor covers a zone of approximately one lane over from both sides of the vehicle, or 3.5 m (11 ft). The height of the zone is approximately between 0.5 m (1.5 ft) and 2 m (6 ft) off the ground. This zone starts at approximately the middle of the vehicle and goes back 5 m (16 ft).

How the System Works

The SBZA symbol lights up in the side mirrors when the system detects a moving vehicle in the next lane over that is in the side blind zone. This indicates it may be unsafe to change lanes. Before making a lane change, check the SBZA display, check mirrors, glance over your shoulder, and use the turn signals.



Left Side Mirror Display **Right Side Mirror Display**

When the vehicle is started, both outside mirror SBZA displays will briefly come on to indicate the system is operating. When the vehicle is in a forward gear, the left or right side mirror display will light up if a moving vehicle is detected in that blind zone. If the turn signal is activated in the same direction of a detected vehicle, this display will flash as an extra warning not to change lanes.

SBZA can be disabled through vehicle personalization. See “Collision Detection Systems” under *Vehicle Personalization* ⇨ *124*.

If SBZA is disabled by the driver, the SBZA mirror displays will not light up.

When the System Does Not Seem to Work Properly

SBZA displays may not come on when passing a vehicle quickly, for a stopped vehicle, or when towing a trailer. The SBZA detection zones that extend back from the side of the vehicle do not move further back when a trailer is towed. Use caution while changing lanes when towing a trailer. SBZA may alert to objects attached to the vehicle, such as a trailer, bicycle, or object extending out to either side of the vehicle. This is normal system operation; the vehicle does not need service.

SBZA may not always alert the driver to vehicles in the side blind zone, especially in wet conditions. The system does not need to be serviced. The system may light up due to guardrails, signs, trees, shrubs, and other non-moving objects. This is normal system operation; the vehicle does not need service.

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SBZA may not operate when the SBZA sensors in the left or right corners of the rear bumper are covered with mud, dirt, snow, ice, or slush, or in heavy rainstorms. For cleaning instructions, see "Washing the Vehicle" under *Exterior Care* ⇨ *268*. If the DIC displays the system unavailable message after cleaning both sides of the vehicle toward the rear corners of the vehicle, see your dealer.

If the SBZA displays do not light up when vehicles are in the blind zone and the system is clean, the system may need service. Take the vehicle to your dealer.

When SBZA is disabled for any reason other than the driver turning it off, the Side Blind Zone Alert On option will not be available on the personalization menu.

Radio Frequency Information

See *Radio Frequency Statement* ⇨ *304*.

Lane Departure Warning (LDW)

If equipped, LDW may help avoid crashes due to unintentional lane departures. It may provide an alert if the vehicle is crossing a lane without using a turn signal in that direction. LDW uses a camera sensor to detect the lane markings at speeds of 56 km/h (35 mph) or greater.

⚠ Warning

The LDW system does not steer the vehicle. The LDW system may not:

- Provide enough time to avoid a crash.
- Detect lane markings under poor weather or visibility conditions. This can occur if the windshield or headlamps are blocked by dirt, snow, or ice; if they are

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Warning (Continued)

not in proper condition; or if the sun shines directly into the camera.

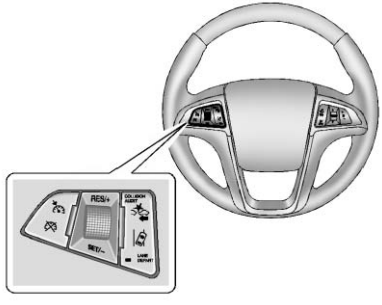
- Detect road edges.
- Detect lanes on winding or hilly roads.

If LDW only detects lane markings on one side of the road, it will only warn you when departing the lane on the side where it has detected a lane marking. Always keep your attention on the road and maintain proper vehicle position within the lane, or vehicle damage, injury, or death could occur. Always keep the windshield, headlamps, and camera sensors clean and in good repair. Do not use LDW in bad weather conditions.

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How the System Works

The LDW camera sensor is on the windshield ahead of the rearview mirror.



To turn LDW on and off, press the LANE DEPART button on the steering wheel. The control indicator will light when LDW is on.



When LDW is on, is green if LDW is available to warn of a lane departure. If the vehicle crosses a detected lane marking without using the turn signal in that direction, changes to amber and flashes. Additionally, there will be three beeps on the right or left, depending on the lane departure direction.

When the System Does Not Seem To Work Properly

The system may not detect lanes as well when there are:

- Close vehicles ahead.
- Sudden lighting changes, such as when driving through tunnels.
- Banked roads.

If the LDW system is not functioning properly when lane markings are clearly visible, cleaning the windshield may help.

LDW alerts may occur due to tar marks, shadows, cracks in the road, temporary or construction lane markings, or other road imperfections. This is normal system operation; the vehicle does not need service. Turn LDW off if these conditions continue.

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Fuel

GM recommends the use of TOP TIER Detergent Gasoline to keep the engine cleaner and reduce engine deposits. See www.toptiergas.com for a list of TOP TIER Detergent Gasoline marketers and applicable countries.





If the vehicle has a yellow fuel cap or a yellow sticker on the fuel door, E85 or FlexFuel can be used. See *E85 or FlexFuel* ⇨ *191*.

Use regular unleaded gasoline meeting ASTM specification D4814 with a posted octane rating of 87 or higher. Do not use gasoline with a posted octane rating of less than 87, as this may cause engine knock and will lower fuel economy.

Prohibited Fuels

Caution

Do not use fuels with any of the following conditions; doing so may damage the vehicle and void its warranty:

- For vehicles which are not FlexFuel, fuel labeled greater than 15% ethanol by volume, such as mid-level ethanol blends (16 – 50% ethanol), E85, or FlexFuel.
- Fuel with any amount of methanol, methylal, and aniline. These fuels can corrode metal fuel system parts or damage plastic and rubber parts.
- Fuel containing metals such as methylcyclopentadienyl manganese tricarbonyl

(Continued)

Caution (Continued)

(MMT), which can damage the emissions control system and spark plugs.

- Fuel with a posted octane rating of less than the recommended fuel. Using this fuel will lower fuel economy and performance, and may decrease the life of the emissions catalyst.

California Fuel Requirements

If the vehicle is certified to meet California Emissions Standards, it is designed to operate on fuels that meet California specifications. See the underhood emission control label. If this fuel is not available in states adopting California Emissions Standards, the vehicle will operate satisfactorily on fuels meeting federal specifications, but emission control system performance may be affected. The malfunction indicator lamp could turn on and the vehicle

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may not pass a smog-check test. See *Malfunction Indicator Lamp (Check Engine Light)* ⇨ *107*. If this occurs, return to your authorized dealer for diagnosis. If it is determined that the condition is caused by the type of fuel used, repairs may not be covered by the vehicle warranty.

Fuels in Foreign Countries

The U.S., Canada, and Mexico post fuel octane ratings in anti-knock index (AKI). For fuel not to use in a foreign country, see “Prohibited Fuels” in *Fuel* ⇨ *190*.

Fuel Additives

To keep fuel systems clean, TOP TIER Detergent Gasoline is recommended. See *Fuel* ⇨ *190*.

If TOP TIER Detergent Gasoline is not available, one bottle of GM Fuel System Treatment Cleaner added to the fuel tank at every engine oil change, can help. GM Fuel System Treatment Cleaner is the only gasoline additive recommended by General Motors. It is available at your dealer.

If your vehicle is able to use E85 or FlexFuel, GM Fuel System Treatment Cleaner - FlexFuel is the only recommended additive for use. Do not use any other additives with an E85 or FlexFuel vehicle. See *E85 or FlexFuel* ⇨ *191*.

E85 or FlexFuel

Vehicles with fuel caps marked as “E85” or FlexFuel can use either unleaded gasoline or ethanol fuel containing up to 85% ethanol (E85). All other vehicles should use only the unleaded gasoline as described in *Fuel* ⇨ *190*.

The use of E85 or FlexFuel is encouraged when the vehicle is designed to use it. E85 or FlexFuel is made from renewable sources.

Many fuel stations will not have an 85% ethanol fuel (E85) pump available. Those stations that do have E85 should have a label indicating the FlexFuel ethanol content. Do not use the fuel if the ethanol content is greater than 85%.

The starting characteristics of E85 or FlexFuel make it unsuitable for use when temperatures fall below −18 °C (0 °F). Use gasoline or add gasoline to the E85 or FlexFuel.

Because E85 or FlexFuel has less energy per liter (gallon) than gasoline, the vehicle will need to be refilled more often. See *Filling the Tank* ⇨ *192*.

Caution
Some additives are not compatible with E85 or FlexFuel and can harm the vehicle's fuel system. Do not add anything to E85 or FlexFuel. Damage caused by additives would not be covered by the vehicle warranty.

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Caution

Do not use fuel containing methanol. It can corrode metal parts in the fuel system and also damage plastic and rubber parts. That damage would not be covered under the vehicle warranty.

Filling the Tank

⚠ Warning

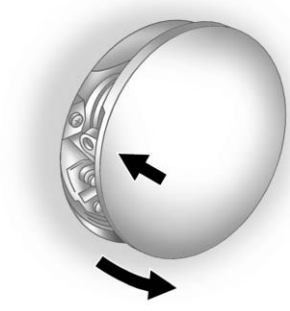
Fuel vapors and fuel fires burn violently and can cause injury or death.

- To help avoid injuries to you and others, read and follow all the instructions on the fuel pump island.
- Turn off the engine when refueling.
- Keep sparks, flames, and smoking materials away from fuel.

(Continued)

Warning (Continued)

- Do not leave the fuel pump unattended.
- Do not use a cell phone while refueling.
- Do not re-enter the vehicle while pumping fuel.
- Keep children away from the fuel pump and never let children pump fuel.
- Fuel can spray out if the fuel cap is opened too quickly. This spray can happen if the tank is nearly full, and is more likely in hot weather. Open the fuel cap slowly and wait for any hiss noise to stop, then unscrew the cap all the way.



The fuel cap is behind the fuel door on the passenger side of the vehicle. To open the fuel door, push and release the rearward center edge of the door.

Turn the fuel cap counterclockwise to remove. Do not release the cap too soon or it will spring back. Reinstall the cap by turning it clockwise until it clicks.

If the cap is not properly installed, the malfunction indicator lamp may come on. See *Malfunction Indicator Lamp (Check Engine Light)* ⇨ *107*.

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⚠ Warning

Overfilling the fuel tank by more than three clicks of a standard fill nozzle may cause:

- Vehicle performance issues, including engine stalling and damage to the fuel system.
- Fuel spills.
- Potential fuel fires.

Be careful not to spill fuel. Wait a few seconds before removing the nozzle. Clean fuel from painted surfaces as soon as possible. See *Exterior Care* ⇨ *268*.

⚠ Warning

If a fire starts while you are refueling, do not remove the nozzle. Shut off the flow of fuel by shutting off the pump or by notifying the station attendant. Leave the area immediately.

Caution

If a new fuel cap is needed, be sure to get the right type of cap from your dealer. The wrong type of fuel cap may not fit properly, may cause the malfunction indicator lamp to light, and could damage the fuel tank and emissions system. See *Malfunction Indicator Lamp (Check Engine Light)* ⇨ *107*.

Filling a Portable Fuel Container

⚠ Warning

Filling a portable fuel container while it is in the vehicle can cause fuel vapors that can ignite either by static electricity or other means. You or others could be badly burned and the vehicle could be damaged. Always:

(Continued)

Warning (Continued)

- Use approved fuel containers.
- Remove the container from the vehicle, trunk, or pickup bed before filling.
- Place the container on the ground.
- Place the nozzle inside the fill opening of the container before dispensing fuel, and keep it in contact with the fill opening until filling is complete.
- Fill the container no more than 95% full to allow for expansion.
- Do not smoke, light matches, or use lighters while pumping fuel.
- Avoid using cell phones or other electronic devices.

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Trailer Towing

General Towing Information

Only use towing equipment that has been designed for the vehicle. Contact your dealer or trailering dealer for assistance with preparing the vehicle for towing a trailer. Read the entire section before towing a trailer.

For towing a disabled vehicle, see *Towing the Vehicle* ⇨ *265*. For towing the vehicle behind another vehicle such as a motor home, see *Recreational Vehicle Towing* ⇨ *265*.

Driving Characteristics and Towing Tips

Driving with a Trailer

When towing a trailer:

- Become familiar with the state and local laws that apply specifically to trailer towing.
- Do not tow a trailer during the first 800 km (500 miles), to prevent damage to the engine, axle or other parts.
- Then, during the first 800 km (500 miles) trailer towing, do not drive over 80 km/h (50 mph) and do not make starts at full throttle.
- The vehicle can tow in D (Drive). Use a lower gear if the transmission shifts too often.
- Do not use the Fuel Economy Mode when towing.
- Turn off Park Assist when towing.

⚠ Warning

When towing a trailer, exhaust gases may collect at the rear of the vehicle and enter if the liftgate, trunk/hatch, or rear-most window is open.

(Continued)

Warning (Continued)

When towing a trailer:

- Do not drive with the liftgate, trunk/hatch, or rear-most window open.
- Fully open the air outlets on or under the instrument panel.
- Also adjust the climate control system to a setting that brings in only outside air. See “Climate Control Systems” in the Index.

For information about carbon monoxide, see *Engine Exhaust* ⇨ *170*.

Towing a trailer requires a certain amount of experience. The combination you are driving is longer and not as responsive as the vehicle itself. Get acquainted with the handling and braking of the rig before setting out for the open road.

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Before starting, check all trailer hitch parts and attachments, safety chains, electrical connectors, lamps, tires and mirrors. If the trailer has electric brakes, start the combination moving and then apply the trailer brake controller by hand to be sure the brakes work.

During the trip, check occasionally to be sure that the load is secure and the lamps and any trailer brakes still work.

Towing with a Stability Control System

When towing, the sound of the stability control system might be heard. The system is reacting to the vehicle movement caused by the trailer, which mainly occurs during cornering. This is normal when towing heavier trailers.

Following Distance

Stay at least twice as far behind the vehicle ahead as you would when driving the vehicle without a trailer. This can help to avoid situations that require heavy braking and sudden turns.

Passing

More passing distance is needed when towing a trailer. Because the rig is longer, it is necessary to go farther beyond the passed vehicle before returning to the lane.

Backing Up

Hold the bottom of the steering wheel with one hand. To move the trailer to the left, move your hand to the left. To move the trailer to the right, move your hand to the right. Always back up slowly and, if possible, have someone guide you.

Making Turns

Caution
Making very sharp turns while trailering could cause the trailer to come in contact with the vehicle. The vehicle could be damaged. Avoid making very sharp turns while trailering.

When turning with a trailer, make wider turns than normal so the trailer will not strike soft shoulders, curbs, road signs, trees or other objects. Use the turn signal well in advance and avoid jerky or sudden maneuvers.

Turn Signals When Towing a Trailer

The turn signal indicators on the instrument panel flash whenever signaling a turn or lane change. Properly hooked up, the trailer lamps also flash, telling other drivers the vehicle is turning, changing lanes or stopping.

When towing a trailer, the arrows on the instrument panel flash for turns even if the bulbs on the trailer are burned out. Check occasionally to be sure the trailer bulbs are still working.

Driving on Grades

Reduce speed and shift to a lower gear before starting down a long or steep downgrade. If the transmission is not shifted down, the

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brakes might have to be used so much that they would get hot and no longer work well.

The vehicle can tow in D (Drive). Use a lower gear if the transmission shifts too often.

When towing at high altitude on steep uphill grades, engine coolant boils at a lower temperature than at normal altitudes. If the engine is turned off immediately after towing at high altitude on steep uphill grades, the vehicle could show signs similar to engine overheating. To avoid this, let the engine run while parked, preferably on level ground, with the transmission in P (Park) for a few minutes before turning the engine off. If the overheat warning comes on, see *Engine Overheating* ⇨ *218*.

Parking on Hills

⚠ Warning

Parking the vehicle on a hill with the trailer attached can be dangerous. If something goes wrong, the rig could start to move. People can be injured, and both the vehicle and the trailer can be damaged. When possible, always park the rig on a flat surface.

If parking the rig on a hill:

1. Press the brake pedal, but do not shift into P (Park) yet. Turn the wheels into the curb if facing downhill or into traffic if facing uphill.
2. Have someone place chocks under the trailer wheels.
3. When the wheel chocks are in place, release the brake pedal until the chocks absorb the load.
4. Reapply the brake pedal. Then apply the parking brake and shift into P (Park).
5. Release the brake pedal.

Leaving After Parking on a Hill

1. Apply and hold the brake pedal while you:
 - Start the engine.
 - Shift into a gear.
 - Release the parking brake.
2. Let up on the brake pedal.
3. Drive slowly until the trailer is clear of the chocks.
4. Stop and have someone pick up and store the chocks.

Maintenance When Trailer Towing

The vehicle needs service more often when pulling a trailer. See the *Maintenance Schedule* ⇨ *279*. Things that are especially important in trailer operation are automatic transmission fluid, engine oil, axle lubricant, belts, cooling system and brake system. Inspect these before and during the trip.

Check periodically to see that all hitch nuts and bolts are tight.

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Engine Cooling When Trailer Towing

The cooling system may temporarily overheat during severe operating conditions. See *Engine Overheating* ⇨ *218*.

Trailer Towing

Before pulling a trailer, there are three important considerations that have to do with weight:

- The weight of the trailer
- The weight of the trailer tongue
- The total weight on the vehicle's tires

Weight of the Trailer

How heavy can a trailer safely be?

Speed, altitude, road grades, outside temperature, special equipment, and the amount of tongue weight the vehicle can carry must be considered. See “Weight of the Trailer Tongue” later in this section.

Maximum trailer weight is calculated assuming only the driver is in the tow vehicle and it has all the required trailering equipment. The weight of additional optional equipment, passengers and cargo in the tow vehicle must be subtracted from the maximum trailer weight.

Use the following chart to determine how much the vehicle can weigh, based upon the vehicle model and options.

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Vehicle	Maximum Trailer Weight with Trailer Brakes†	GCWR*
2.4L L4 Engine, FWD	680 kg (1,500 lbs)	2 625 kg (5,787 lbs)
2.4L L4 Engine, AWD	680 kg (1,500 lbs)	2 700 kg (5,952 lbs)
3.6L V6 Engine, FWD	1 588 kg (3,500 lbs)	3 600 kg (7,937 lbs)
3.6L V6 Engine, AWD	1 588 kg (3,500 lbs)	3 700 kg (8,157 lbs)
† For trailers without trailer brakes the maximum trailer weight is 454 kg (1,000 lbs). See *Towing Equipment* ⇨ *199*.		

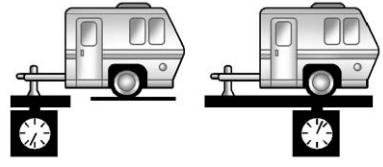
*The Gross Combination Weight Rating (GCWR) is the total allowable weight of the completely loaded vehicle and trailer including any passengers, cargo, equipment and conversions. The GCWR for the vehicle should not be exceeded.

Ask your dealer for our trailering information or advice.

Weight of the Trailer Tongue

The tongue load (1) of any trailer is an important weight to measure because it affects the total gross weight of the vehicle. The Gross Vehicle Weight (GVW) includes the curb weight of the vehicle, any cargo carried in it, and the people who will be riding in the vehicle. If there are a lot of options, equipment, passengers or cargo in the vehicle, it will reduce the tongue weight the vehicle can carry, which will also reduce the trailer weight the vehicle can tow. If towing a trailer, the tongue load must be added to the GVW because the vehicle will be carrying that weight, too. See *Vehicle Load Limits* ⇨ *160*.

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1 2

If a weight-carrying hitch or a weight-distributing hitch is being used, the trailer tongue (1) should weigh 10 to 15 percent of the total loaded trailer weight (2).

After loading the trailer, weigh the trailer and then the tongue, separately, to see if the weights are proper. If they are not, adjustments might be made by moving some items around in the trailer.

Trailering may be limited by the vehicle's ability to carry tongue weight. Tongue weight cannot cause the vehicle to exceed the GVWR (Gross Vehicle Weight Rating) or the RGAWR (Rear Gross Axle

Weight Rating). The effect of additional weight may reduce the trailering capacity more than the total of the additional weight.

It is important that the vehicle does not exceed any of its ratings — GCWR, GVWR, RGAWR, Maximum Trailer Rating or Tongue Weight. The only way to be sure it is not exceeding any of these ratings is to weigh the vehicle and trailer.

Total Weight on the Vehicle's Tires

Inflate the vehicle's tires to the upper limit for cold tires. These numbers can be found on the Certification label or see *Vehicle Load Limits* ⇨ *160* for more information. Do not go over the GVW limit for the vehicle, or the GAWR, including the weight of the trailer tongue. If using a weight distributing hitch, do not go over the rear axle limit before applying the weight distribution spring bars.

Towing Equipment

Hitches

Use the correct hitch equipment. See your dealer or a hitch dealer for assistance.

- The rear bumper on the vehicle is not intended for hitches. Do not attach rental hitches or other bumper-type hitches to it. Use only a frame-mounted hitch that does not attach to the bumper.
- Will any holes be made in the body of the vehicle when the trailer hitch is installed? If so, seal the holes when the hitch is removed. If the holes are not sealed, dirt, water, and deadly carbon monoxide (CO) from the exhaust can get into the vehicle. See *Engine Exhaust* ⇨ *170*.

Safety Chains

Always attach chains between the vehicle and the trailer. Cross the safety chains under the tongue of the trailer to help prevent the tongue from contacting the road if it becomes separated from the hitch. Leave enough slack so the rig can turn. Never allow safety chains to drag on the ground.

Trailer Brakes

Does the trailer have its own brakes? Be sure to read and follow the instructions for the trailer brakes so they are installed, adjusted, and maintained properly.

Because the vehicle has antilock brakes, do not tap into the vehicle's brake system. If this is done, both brake systems will not work well or at all.

Trailer Sway Control (TSC)

The vehicle has a Trailer Sway Control (TSC) feature as part of the StabiliTrak system. If TSC detects that the trailer is swaying, the vehicle's brakes are automatically applied.

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When TSC is applying the brakes, the TCS/StabiliTrak indicator light flashes to notify the driver to reduce speed. If the trailer continues to sway, StabiliTrak will reduce engine torque to help slow the vehicle.

TSC will not function if StabiliTrak is turned off. See *Traction Control/ Electronic Stability Control* ⇨ *176*.

Conversions and Add-Ons

Add-On Electrical Equipment

⚠ Warning

The Data Link Connector (DLC) is used for vehicle service and Emission Inspection/Maintenance testing. See *Malfunction Indicator Lamp (Check Engine Light)* ⇨ *107*. A device connected to the DLC — such as an aftermarket fleet or driver-behavior tracking device — may interfere with vehicle systems. This could affect vehicle operation and cause a crash. Such devices may also access information stored in the vehicle's systems.

Caution

Some electrical equipment can damage the vehicle or cause components to not work and would not be covered by the vehicle warranty. Always check with your dealer before adding electrical equipment.

Add-on equipment can drain the vehicle's 12-volt battery, even if the vehicle is not operating.

The vehicle has an airbag system. Before attempting to add anything electrical to the vehicle, see *Servicing the Airbag-Equipped Vehicle* ⇨ *71* and *Adding Equipment to the Airbag-Equipped Vehicle* ⇨ *72*.

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General Information

For service and parts needs, visit your dealer. You will receive genuine GM parts and GM-trained and supported service people.

Genuine GM parts have one of these marks:

ACDelco

Genuine GM | Parts

GM Accessories

California Proposition 65 Warning

WARNING: Most motor vehicles, including this one, as well as many of its service parts and fluids, contain and/or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Engine exhaust, many parts and systems, many fluids, and some component wear by-products contain and/or emit these chemicals.

See *Battery - North America* ⇨ *222* and *Jump Starting - North America* ⇨ *262*.

California Perchlorate Materials Requirements

Certain types of automotive applications, such as airbag initiators, safety belt pretensioners, and lithium batteries contained in Remote Keyless Entry transmitters, may contain perchlorate materials. Special handling may be necessary. For additional information, see www.dtsc.ca.gov/hazardouswaste/perchlorate.

Accessories and Modifications

Adding non-dealer accessories or making modifications to the vehicle can affect vehicle performance and

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safety, including such things as airbags, braking, stability, ride and handling, emissions systems, aerodynamics, durability, and electronic systems like antilock brakes, traction control, and stability control. These accessories or modifications could even cause malfunction or damage not covered by the vehicle warranty.

Damage to suspension components caused by modifying vehicle height outside of factory settings will not be covered by the vehicle warranty.

Damage to vehicle components resulting from modifications or the installation or use of non-GM certified parts, including control module or software modifications, is not covered under the terms of the vehicle warranty and may affect remaining warranty coverage for affected parts.

GM Accessories are designed to complement and function with other systems on the vehicle. See your dealer to accessorize the vehicle using genuine GM Accessories installed by a dealer technician.

Also, see *Adding Equipment to the Airbag-Equipped Vehicle* ⇨ 72.

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Vehicle Checks

Doing Your Own Service Work

⚠ Warning

It can be dangerous to work on your vehicle if you do not have the proper knowledge, service manual, tools, or parts. Always follow owner manual procedures and consult the service manual for your vehicle before doing any service work.

If doing some of your own service work, use the proper service manual. It tells you much more about how to service the vehicle than this manual can. To order the proper service manual, see *Service Publications Ordering Information* ⇨ 303.

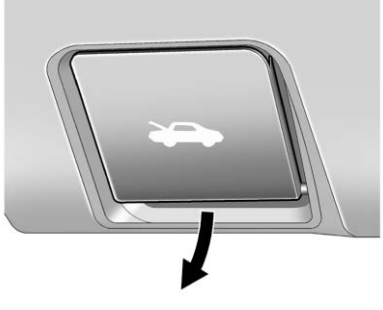
This vehicle has an airbag system. Before attempting to do your own service work, see *Servicing the Airbag-Equipped Vehicle* ⇨ 71.

Keep a record with all parts receipts and list the mileage and the date of any service work performed. See *Maintenance Records* ⇨ *290*.

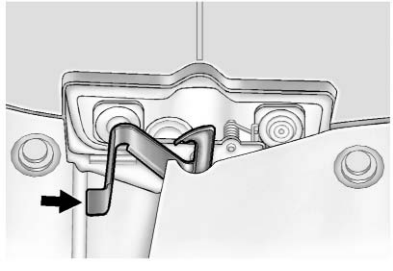
Caution
Even small amounts of contamination can cause damage to vehicle systems. Do not allow contaminants to contact the fluids, reservoir caps, or dipsticks.

Hood

To open the hood:



1. Pull the release handle located below the instrument panel to the left of the steering wheel.



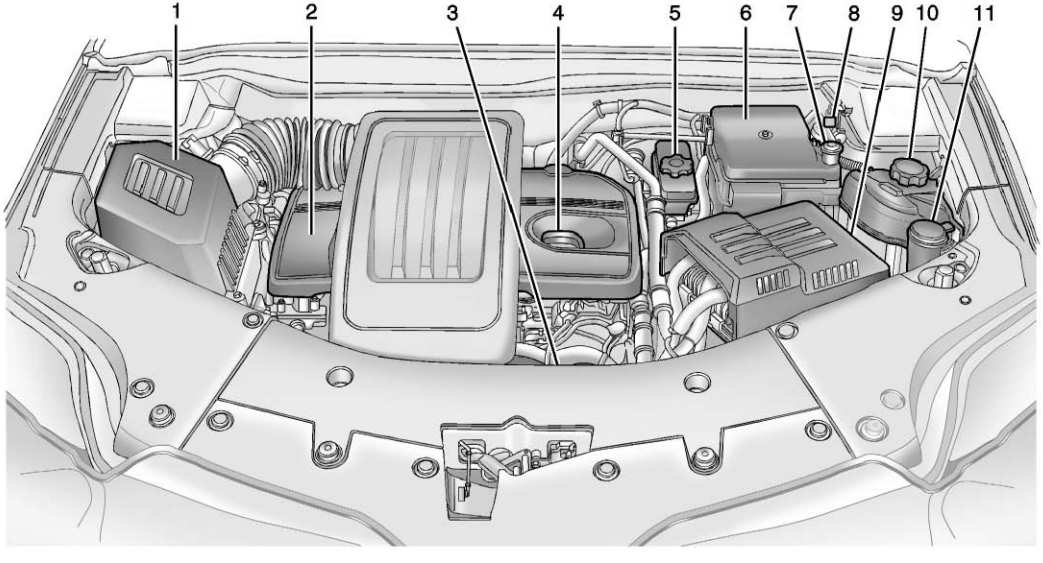
2. Go to the front of the vehicle to find the secondary hood release handle. The handle is under the front edge of the hood near the center. Push the handle to the right and at the same time raise the hood.

To close the hood:

1. Before closing the hood, be sure all the filler caps are on properly.
2. Lower the hood 30 cm (12 in) above the vehicle and release it so it fully latches. Check to make sure the hood is closed and repeat the process if necessary.

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Engine Compartment Overview

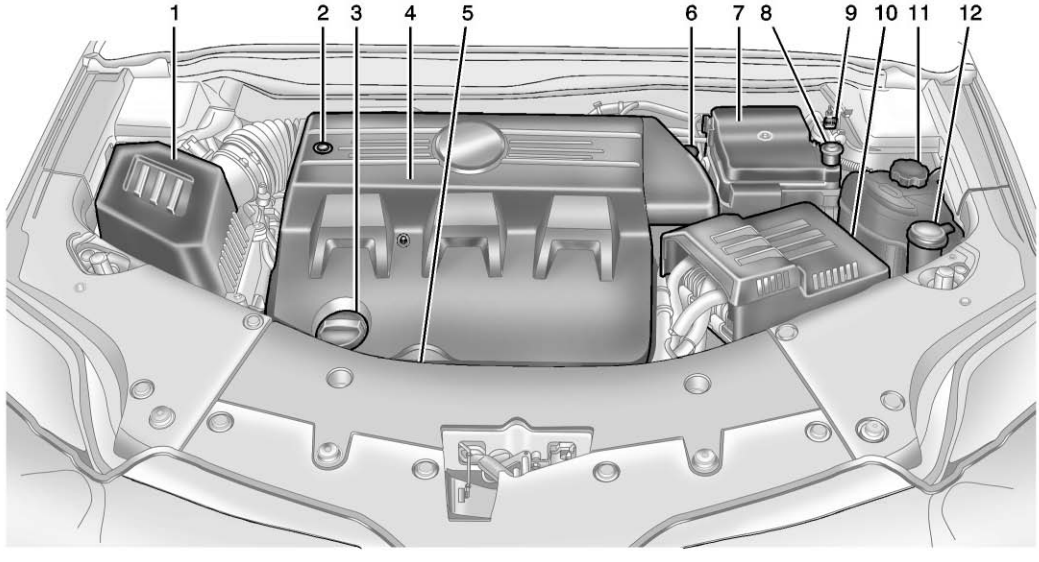


2.4L L4 Engine

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1. *Engine Air Cleaner/Filter* ⇨ *212*.
2. *Engine Cover* ⇨ *208*.
3. Engine Oil Dipstick (Out of View). See *Engine Oil* ⇨ *208*.
4. Engine Oil Fill Cap. See *Engine Oil* ⇨ *208*.
5. Brake Fluid Reservoir. See *Brake Fluid* ⇨ *221*.
6. *Engine Compartment Fuse Block* ⇨ *230*.
7. Remote Positive (+) Terminal. See *Jump Starting - North America* ⇨ *262*.
8. Remote Negative (−) Terminal. See *Jump Starting - North America* ⇨ *262*.
9. *Battery - North America* ⇨ *222* (Out of View).
10. Engine Coolant Surge Tank and Pressure Cap. See *Engine Coolant* ⇨ *214*.
11. Windshield Washer Fluid Reservoir. See *Washer Fluid* ⇨ *220*.

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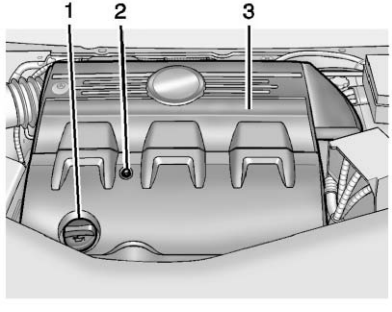


3.6L V6 Engine

DEP
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1. *Engine Air Cleaner/Filter* ⇨ *212*.
2. Power Steering Fluid Reservoir (Under Engine Cover). See *Power Steering Fluid (2.4L L4 Engine)* ⇨ *219* or *Power Steering Fluid (3.6L V6 Engine)* ⇨ *219*.
3. Engine Oil Fill Cap. See *Engine Oil* ⇨ *208*.
4. *Engine Cover* ⇨ *208*.
5. Engine Oil Dipstick (Out of View). See *Engine Oil* ⇨ *208*.
6. Brake Fluid Reservoir. See *Brake Fluid* ⇨ *221*.
7. *Engine Compartment Fuse Block* ⇨ *230*.
8. Remote Positive (+) Terminal. See *Jump Starting - North America* ⇨ *262*.
9. Remote Negative (−) Terminal. See *Jump Starting - North America* ⇨ *262*.
10. *Battery - North America* ⇨ *222* (Out of View).
11. Engine Coolant Surge Tank and Pressure Cap. See *Engine Coolant* ⇨ *214*.
12. Windshield Washer Fluid Reservoir. See *Washer Fluid* ⇨ *220*.

Engine Cover



Engine Cover 3.6L V6

1. Oil Fill Cap
2. Engine Cover Bolt
3. Engine Cover

To remove:

1. Remove the oil fill cap (1).
2. Remove the engine cover bolt (2).
3. Raise the engine cover (3) to release from the retainers.
4. Lift and remove the engine cover.
5. Reverse Steps 1–4 to reinstall engine cover.

Engine Oil

To ensure proper engine performance and long life, careful attention must be paid to engine oil. Following these simple, but important steps will help protect your investment:

- Use engine oil approved to the proper specification and of the proper viscosity grade. See “Selecting the Right Engine Oil” in this section.
- Check the engine oil level regularly and maintain the proper oil level. See “Checking Engine Oil” and “When to Add Engine Oil” in this section.

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- Change the engine oil at the appropriate time. See *Engine Oil Life System* ⇨ *211*.
- Always dispose of engine oil properly. See “What to Do with Used Oil” in this section.

Checking Engine Oil

It is a good idea to check the engine oil level at each fuel fill. In order to get an accurate reading, the vehicle must be on level ground. The engine oil dipstick handle is a loop. See *Engine Compartment Overview* ⇨ *205* for the location of the engine oil dipstick.

Obtaining an accurate oil level reading is essential:

1. If the engine has been running recently, turn off the engine and allow several minutes for the oil to drain back into the oil pan. Checking the oil level too soon after engine shutoff will not provide an accurate oil level reading.

⚠ Warning

The engine oil dipstick handle may be hot; it could burn you. Use a towel or glove to touch the dipstick handle.

2. Pull out the dipstick and wipe it with a clean paper towel or cloth, then push it back in all the way. Remove it again, keeping the tip down, and check the level.

When to Add Engine Oil



2.4L L4 Engine

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3.6L V6 Engine

If the oil is below the cross-hatched area at the tip of the dipstick, add 1 L (1 qt) of the recommended oil and then recheck the level. See “Selecting the Right Engine Oil” in this section for an explanation of what kind of oil to use. For engine oil crankcase capacity, see *Capacities and Specifications* ⇨ *292*.

Caution

Do not add too much oil. Oil levels above or below the acceptable operating range shown on the dipstick are harmful to the engine. If you find that you have an oil level above the operating range, i.e., the engine has so much oil that the oil level gets above the cross-hatched

(Continued)

Caution (Continued)

area that shows the proper operating range, the engine could be damaged. You should drain out the excess oil or limit driving of the vehicle and seek a service professional to remove the excess amount of oil.

See *Engine Compartment Overview* ⇨ *205* for the location of the engine oil fill cap.

Add enough oil to put the level somewhere in the proper operating range. Push the dipstick all the way back in when through.

Selecting the Right Engine Oil

Selecting the right engine oil depends on both the proper oil specification and viscosity grade. See *Recommended Fluids and Lubricants* ⇨ *288*.

Specification

Ask for and use engine oils that meet the dexos1™ specification. Engine oils that have been approved by GM as meeting the dexos1 specification are marked with the dexos1 approved logo. See www.gmdexos.com.

dexos1™ APPROVED

Caution

Failure to use the recommended engine oil or equivalent can result in engine damage not covered by the vehicle warranty.

Viscosity Grade

Use SAE 5W-30 viscosity grade engine oil.

Cold Temperature Operation: In an area of extreme cold, where the temperature falls below −29 °C (−20 °F), an SAE 0W-30 oil may be used. An oil of this viscosity grade will provide easier cold starting for the engine at extremely low temperatures. When selecting an oil of the appropriate viscosity grade, it is recommended to select an oil of the correct specification. See “Specification” earlier in this section.

DEP DEALER E-PROCESS

Engine Oil Additives/Engine Oil Flushes

Do not add anything to the oil. The recommended oils meeting the dexos1 specification are all that is needed for good performance and engine protection.

Engine oil system flushes are not recommended and could cause engine damage not covered by the vehicle warranty.

What to Do with Used Oil

Used engine oil contains certain elements that can be unhealthy for your skin and could even cause cancer. Do not let used oil stay on your skin for very long. Clean your skin and nails with soap and water, or a good hand cleaner. Wash or properly dispose of clothing or rags containing used engine oil. See the manufacturer's warnings about the use and disposal of oil products.

Used oil can be a threat to the environment. If you change your own oil, be sure to drain all the oil from the filter before disposal. Never dispose of oil by putting it in the trash or pouring it on the ground, into sewers, or into streams or bodies of water. Recycle it by taking it to a place that collects used oil.

Engine Oil Life System

When to Change Engine Oil

This vehicle has a computer system that indicates when to change the engine oil and filter. This is based on a combination of factors which include engine revolutions, engine temperature, and miles driven. Based on driving conditions, the mileage at which an oil change is indicated can vary considerably. For the oil life system to work properly, the system must be reset every time the oil is changed.

When the system has calculated that oil life has been diminished, it indicates that an oil change is necessary. A CHANGE ENGINE OIL SOON message comes on. See *Engine Oil Messages* ⇨ *120*. Change the oil as soon as possible within the next 1 000 km (600 mi). It is possible that, if driving under the best conditions, the oil life system might indicate that an oil change is not necessary for up to a year. The engine oil and filter must be changed at least once a year and, at this time, the system must be reset. Your dealer has trained service people who will perform this work and reset the system. It is also important to check the oil regularly over the course of an oil drain interval and keep it at the proper level.

If the system is ever reset accidentally, the oil must be changed at 5 000 km (3,000 mi) since the last oil change. Remember to reset the oil life system whenever the oil is changed.

How to Reset the Engine Oil Life System

Reset the system whenever the engine oil is changed so that the system can calculate the next engine oil change. To reset the system:

1. Turn the ignition to ON/RUN, with the engine off.
2. Press the DIC MENU button to display the Vehicle Information menu.
3. Press either the up or down arrows to view REMAINING OIL LIFE.
4. Press the SET/CLR button until 100% is displayed.
5. Turn the key to LOCK/OFF.

Or:

1. Turn the ignition to ON/RUN with the engine off.
2. Fully press and release the accelerator pedal three times within five seconds.

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The system is reset when the CHANGE ENGINE OIL SOON message goes off.

If the CHANGE ENGINE OIL SOON message comes back on when the vehicle is started, the engine oil life system has not been reset. Repeat the procedure.

Automatic Transmission Fluid

How to Check Automatic Transmission Fluid

It is not necessary to check the transmission fluid level.
A transmission fluid leak is the only reason for fluid loss. If a leak occurs, take the vehicle to your dealer and have it repaired as soon as possible.

There is a special procedure for checking and changing the transmission fluid. Because this procedure is difficult, this should be done at your dealer. Contact your dealer for additional information or the procedure can be found in the service manual. To purchase a service manual, see *Service Publications Ordering Information* ⇨ *303*.

Change the fluid at the intervals listed in *Maintenance Schedule* ⇨ *279*, and be sure to use the fluid listed in *Recommended Fluids and Lubricants* ⇨ *288*.

Engine Air Cleaner/Filter

The engine air cleaner/filter is in the engine compartment on the passenger side of the vehicle. See *Engine Compartment Overview* ⇨ *205*.

When to Inspect the Engine Air Cleaner/Filter

For intervals on changing and inspecting the engine air cleaner/filter, see *Maintenance Schedule* ⇨ *279*.

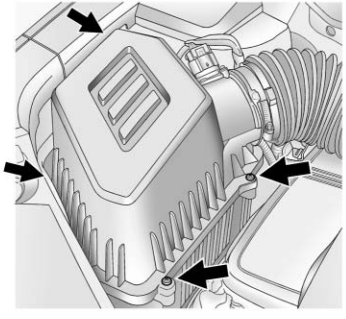
How to Inspect the Engine Air Cleaner/Filter

Do not start the engine or have the engine running with the engine air cleaner/filter housing open. Before removing the engine air cleaner/filter, make sure that the engine air cleaner/filter housing and nearby components are free of dirt and debris. Remove the engine air cleaner/filter. Lightly tap and shake the engine air cleaner/filter (away from the vehicle), to release loose dust and dirt. Inspect the engine air cleaner/filter for damage, and replace if damaged. Do not clean the engine air cleaner/filter or components with water or compressed air.

To inspect or replace the engine air cleaner/filter:

1. Open the hood. See *Hood* ⇨ *204*.
2. Locate the air cleaner/filter housing on the passenger side of the engine compartment. See *Engine Compartment Overview* ⇨ *205*.

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3. Remove the four air cleaner/filter housing cover screws.
4. Pull straight up on the cover, and while holding the cover, remove the air cleaner/filter.
5. Inspect or replace the air cleaner/filter.

How to Reinstall the Engine Air Cleaner/Filter

1. Install the air cleaner/filter into the air cleaner/filter housing. The outer air cleaner/filter seal must be fitted properly in the air cleaner/filter housing.
2. Align the air cleaner/filter housing cover tabs to the air cleaner/filter housing.
3. Install the air cleaner/filter housing cover using the four screws.

⚠ Warning

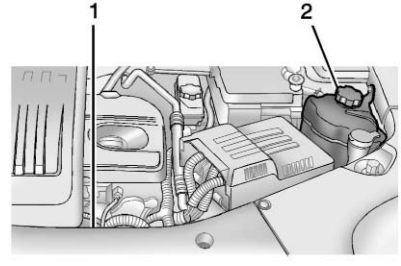
Operating the engine with the air cleaner/filter off can cause you or others to be burned. The air cleaner not only cleans the air; it helps to stop flames if the engine backfires. Use caution when working on the engine and do not drive with the air cleaner/filter off.

Caution

If the air cleaner/filter is off, dirt can easily get into the engine, which could damage it. Always have the air cleaner/filter in place when you are driving.

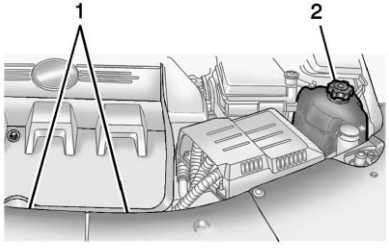
DEP DEALER E-PROCESS

Cooling System



2.4L L4 Engine

1. Engine Cooling Fan (Out of View)
2. Engine Coolant Surge Tank and Pressure Cap



3.6L V6 Engine

1. Engine Cooling Fans (Out of View)
2. Engine Coolant Surge Tank and Pressure Cap

⚠ Warning

An electric engine cooling fan under the hood can start up even when the engine is not running and can cause injury. Keep hands, clothing, and tools away from any underhood electric fan.

If the coolant inside the coolant surge tank is boiling, do not do anything else until it cools down. The vehicle should be parked on a level surface.

The coolant level should be at the COLD FILL line. If it is not, the vehicle may have a leak at the radiator hoses, heater hoses, radiator, water pump, or somewhere else in the cooling system.

⚠ Warning

Heater and radiator hoses, and other engine parts, can be very hot. Do not touch them. If you do, you can be burned.

Do not run the engine if there is a leak. If you run the engine, it could lose all coolant. That could cause an engine fire, and you could be burned. Get any leak fixed before you drive the vehicle.

If there seems to be no leak, with the engine on, check to see if the electric engine cooling fan is running. If the engine is overheating, the fan should be running. If it is not, the vehicle needs service. Turn off the engine.

Caution

Using coolant other than DEX-COOL® can cause premature engine, heater core, or radiator corrosion. In addition, the engine coolant could require changing sooner. Any repairs would not be covered by the vehicle warranty. Always use DEX-COOL (silicate-free) coolant in the vehicle.

Engine Coolant

The cooling system in the vehicle is filled with DEX-COOL® engine coolant. This coolant is designed to remain in the vehicle for 5 years or 240 000 km (150,000 mi), whichever occurs first.

DEALER E-PROCESS

The following explains the cooling system and how to check and add coolant when it is low. If there is a problem with engine overheating, see *Engine Overheating* ⇨ *218*.

What to Use

⚠ Warning

Adding only plain water or some other liquid to the cooling system can be dangerous. Plain water and other liquids, can boil before the proper coolant mixture will. The coolant warning system is set for the proper coolant mixture. With plain water or the wrong mixture, the engine could get too hot but you would not get the overheat warning. The engine could catch fire and you or others could be burned. Use a 50/50 mixture of clean, drinkable water and DEX-COOL coolant.

Use a 50/50 mixture of clean, drinkable water and DEX-COOL coolant. If using this mixture, nothing else needs to be added. This mixture:

- Gives freezing protection down to −37 °C (−34 °F), outside temperature.
- Gives boiling protection up to 129 °C (265 °F), engine temperature.
- Protects against rust and corrosion.
- Will not damage aluminum parts.
- Helps keep the proper engine temperature.

Caution

If improper coolant mixture, inhibitors, or additives are used in the vehicle cooling system, the engine could overheat and be damaged. Too much water in the mixture can freeze and crack engine cooling parts. The repairs

(Continued)

Caution (Continued)

would not be covered by the vehicle warranty. Use only the proper mixture of engine coolant for the cooling system. See *Recommended Fluids and Lubricants* ⇨ *288*.

Never dispose of engine coolant by putting it in the trash, pouring it on the ground, or into sewers, streams, or bodies of water. Have the coolant changed by an authorized service center, familiar with legal requirements regarding used coolant disposal. This will help protect the environment and your health.

Checking Coolant

The vehicle must be on a level surface when checking the coolant level.

Check to see if coolant is visible in the coolant surge tank. If the coolant inside the coolant surge tank is boiling, do not do anything else until it cools down. If coolant is visible

DEP DEALER E-PROCESS

but the coolant level is not at or above the COLD FILL line, add a 50/50 mixture of clean, drinkable water and DEX-COOL coolant at the coolant surge tank, but be sure the cooling system is cool before this is done. See *Engine Overheating* ⇨ *218*.

The coolant surge tank is in the engine compartment on the driver side of the vehicle. See *Engine Compartment Overview* ⇨ *205*.

How to Add Coolant to the Coolant Surge Tank

Caution

This vehicle has a specific coolant fill procedure. Failure to follow this procedure could cause the engine to overheat and be severely damaged.

If you have not found a problem yet, check to see if coolant is visible in the coolant surge tank. If coolant is visible but the coolant level is not at the COLD FILL line, add a 50/50 mixture of clean, drinkable water and DEX-COOL coolant at the coolant surge tank, but be sure the cooling system, including the coolant surge tank pressure cap, is cool before you do it. See *Engine Overheating* ⇨ *218* for more information.

⚠ Warning

Steam and scalding liquids from a hot cooling system can blow out and burn you badly. They are under pressure, and if you turn the coolant surge tank pressure cap — even a little — they can come out at high speed. Never turn the cap when the cooling system, including the coolant surge tank pressure cap, is hot. Wait for the cooling system and coolant surge tank pressure cap to cool if you ever have to turn the pressure cap.

DEP
DEALER E-PROCESS

⚠ Warning

Adding only plain water or some other liquid to the cooling system can be dangerous. Plain water and other liquids, can boil before the proper coolant mixture will. The coolant warning system is set for the proper coolant mixture. With plain water or the wrong mixture, the engine could get too hot but you would not get the overheat warning. The engine could catch fire and you or others could be burned. Use a 50/50 mixture of clean, drinkable water and DEX-COOL coolant.

⚠ Warning

You can be burned if you spill coolant on hot engine parts. Coolant contains ethylene glycol and it will burn if the engine parts are hot enough. Do not spill coolant on a hot engine.

Caution

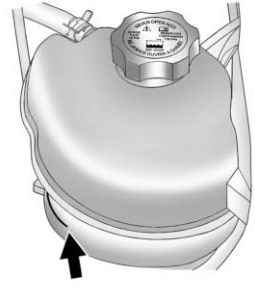
In cold weather, water can freeze and crack the engine, radiator, heater core, and other parts. Use the recommended coolant and the proper coolant mixture.



1. Remove the coolant surge tank pressure cap when the cooling system, including the coolant surge tank pressure cap and upper radiator hose, is no longer hot.

 Turn the pressure cap slowly counterclockwise about one-quarter of a turn. If you hear a hiss, wait for that to stop. This will allow any pressure still left to be vented out the discharge hose.

2. Keep turning the pressure cap slowly, and remove it.



3. Fill the coolant surge tank with the proper DEX-COOL coolant mixture, to the COLD FILL line.
4. With the coolant surge tank pressure cap off, start the engine and let it run until the upper radiator hose can be felt getting hot. Watch out for the engine cooling fan(s).

 By this time, the coolant level inside the coolant surge tank may be lower. If the level is lower, add more of the proper DEX-COOL coolant mixture to the coolant surge tank until the level reaches the COLD FILL line.
5. Replace the pressure cap. Be sure the pressure cap is hand-tight.

Caution

If the pressure cap is not tightly installed, coolant loss and possible engine damage may occur. Be sure the cap is properly and tightly secured.

Check the level in the coolant surge tank when the cooling system has cooled down. If the coolant is not at the proper level, repeat Steps 1-3 and reinstall the pressure cap. If the coolant still is not at the proper level when the system cools down again, see your dealer.

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Engine Overheating

The vehicle has an indicator to warn of engine overheating. There is an engine coolant temperature warning light on the vehicle's instrument panel. See *Engine Coolant Temperature Gauge* ⇨ *104*.

The decision may be made not to lift the hood when this warning appears, but instead get service help right away. See *Roadside Assistance Program* ⇨ *298*.

If the decision to lift the hood is made, make sure the vehicle is parked on a level surface.

Then check to see if the engine cooling fan(s) are running. If the engine is overheating, the fan(s) should be running. If they are not, do not continue to run the engine and have the vehicle serviced.

Caution

Running the engine without coolant may cause damage or a fire. Vehicle damage would not be covered by the vehicle warranty.

If Steam is Coming from the Engine Compartment

⚠ Warning

Steam from an overheated engine can burn you badly, even if you just open the hood. Stay away from the engine if you see or hear steam coming from it. Just turn it off and get everyone away from the vehicle until it cools down. Wait until there is no sign of steam or coolant before you open the hood.

If you keep driving when the engine is overheated, the liquids in it can catch fire. You or others could be badly burned. Stop the engine if it overheats, and get out of the vehicle until the engine is cool.

If No Steam is Coming from the Engine Compartment

If an engine overheat warning is displayed but no steam can be seen or heard, the problem may not be too serious. Sometimes the engine can get a little too hot when the vehicle:

- Climbs a long hill on a hot day.
- Stops after high-speed driving.
- Idles for long periods in traffic.
- Tows a trailer.

If the overheat warning is displayed with no sign of steam:

1. Turn the air conditioning off.
2. Turn the heater on to the highest temperature and to the highest fan speed. Open the windows as necessary.
3. When it is safe to do so, pull off the road, shift to P (Park) or N (Neutral) and let the engine idle.

If the temperature overheat gauge is no longer in the overheat zone or an overheat warning no longer displays, the vehicle can be driven. Continue to drive the vehicle slowly for about 10 minutes. Keep a safe vehicle distance from the vehicle in front. If the warning does not come

DEALER E-PROCESS

back on, continue to drive normally and have the cooling system checked for proper fill and function.

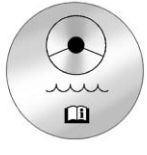
If the warning continues, pull over, stop, and park the vehicle right away.

If there is no sign of steam, idle the engine for three minutes while parked. If the warning is still displayed, turn off the engine until it cools down.

Power Steering Fluid (2.4L L4 Engine)

The vehicle has electric power steering and does not use power steering fluid.

Power Steering Fluid (3.6L V6 Engine)



The power steering fluid reservoir is located toward the rear of the engine compartment on the passenger side of the vehicle. See *Engine Compartment Overview* ⇨ *205* for reservoir location.

When to Check Power Steering Fluid

The power steering fluid does not need to be checked unless there is a leak in the system or you hear an unusual noise. Have the system inspected and repaired if there is a fluid loss.

How to Check Power Steering Fluid

To check the power steering fluid:

1. Turn the engine off and let it cool down.
2. Remove the engine cover. Refer to *Engine Cover* ⇨ *208*.
3. Wipe the cap and the top of the reservoir clean.
4. Unscrew the cap and wipe the dipstick with a clean rag.
5. Replace the cap and completely tighten it.
6. Remove the cap again and look at the fluid level on the dipstick.

The fluid level should be between MAX and MIN line at room temperature. If the fluid is on or below MIN line, add fluid.

What to Use

To determine what kind of fluid to use, refer to *Recommended Fluids and Lubricants* ⇨ *288*. Always use the proper fluid.

Caution
Use of the incorrect fluid may damage the vehicle and the damages may not be covered by the vehicle warranty. Always use the correct fluid listed in *Recommended Fluids and Lubricants* ⇨ *288*.

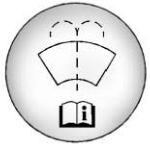
DEP DEALER E-PROCESS

Washer Fluid

What to Use

When windshield washer fluid is needed, be sure to read the manufacturer's instructions before use. If operating the vehicle in an area where the temperature may fall below freezing, use a fluid that has sufficient protection against freezing.

Adding Washer Fluid



Open the cap with the washer symbol on it. Add washer fluid until the tank is full. See *Engine Compartment Overview* ⇨ *205* for reservoir location.

Caution

- Do not use washer fluid that contains any type of water repellent coating. This can cause the wiper blades to chatter or skip.
- Do not use engine coolant (antifreeze) in the windshield washer. It can damage the windshield washer system and paint.
- Do not mix water with ready-to-use washer fluid. Water can cause the solution to freeze and damage the washer fluid tank and other parts of the washer system.
- When using concentrated washer fluid, follow the manufacturer instructions for adding water.
- Fill the washer fluid tank only three-quarters full when it is very cold. This allows for fluid expansion if

(Continued)

Caution (Continued)

freezing occurs, which could damage the tank if it is completely full.

Brakes

Disc brake pads have built-in wear indicators that make a high-pitched warning sound when the brake pads are worn and new pads are needed. The sound can come and go or can be heard all the time when the vehicle is moving, except when applying the brake pedal firmly.

⚠ Warning

The brake wear warning sound means that soon the brakes will not work well. That could lead to a crash. When the brake wear warning sound is heard, have the vehicle serviced.

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Caution
Continuing to drive with worn-out brake pads could result in costly brake repair.

Some driving conditions or climates can cause a brake squeal when the brakes are first applied or lightly applied. This does not mean something is wrong with the brakes.

Properly torqued wheel nuts are necessary to help prevent brake pulsation. When tires are rotated, inspect brake pads for wear and evenly tighten wheel nuts in the proper sequence to torque specifications. See *Capacities and Specifications* ⇨ *292*.

Brake pads should be replaced as complete sets.

Brake Pedal Travel

See your dealer if the brake pedal does not return to normal height, or if there is a rapid increase in pedal travel. This could be a sign that brake service may be required.

Replacing Brake System Parts

Always replace brake system parts with new, approved replacement parts. If this is not done, the brakes may not work properly. The braking performance expected can change in many other ways if the wrong replacement brake parts are installed or if parts are improperly installed.

Brake Fluid



The brake master cylinder reservoir is filled with GM approved DOT 3 brake fluid as indicated on the reservoir cap. See *Engine Compartment Overview* ⇨ *205* for the location of the reservoir.

DEP
DEALER E-PROCESS

Checking Brake Fluid

With the vehicle in P (Park) on a level surface, the brake fluid level should be between the minimum and maximum marks on the brake fluid reservoir.

There are only two reasons why the brake fluid level in the reservoir may go down:

- Normal brake lining wear. When new linings are installed, the fluid level goes back up.
- A fluid leak in the brake hydraulic system. Have the brake hydraulic system fixed. With a leak, the brakes will not work well.

Always clean the brake fluid reservoir cap and the area around the cap before removing it.

Do not top off the brake fluid. Adding fluid does not correct a leak. If fluid is added when the linings are worn, there will be too much fluid when new brake linings are installed. Add or remove fluid, as necessary, only when work is done on the brake hydraulic system.

⚠ Warning

If too much brake fluid is added, it can spill on the engine and burn, if the engine is hot enough. You or others could be burned, and the vehicle could be damaged. Add brake fluid only when work is done on the brake hydraulic system.

When the brake fluid falls to a low level, the brake warning light comes on. See *Brake System Warning Light* ⇨ *109*.

Brake fluid absorbs water over time which degrades the effectiveness of the brake fluid. Replace brake fluid at the specified intervals to prevent increased stopping distance. See *Maintenance Schedule* ⇨ *279*.

What to Add

Use only GM approved DOT 3 brake fluid from a clean, sealed container. See *Recommended Fluids and Lubricants* ⇨ *288*.

⚠ Warning

The wrong or contaminated brake fluid could result in damage to the brake system. This could result in the loss of braking leading to a possible injury. Always use the proper GM approved brake fluid.

Caution

If brake fluid is spilled on the vehicle's painted surfaces, the paint finish can be damaged. Immediately wash off any painted surface.

Battery - North America

The original equipment battery is maintenance free. Do not remove the cap and do not add fluid.

Refer to the replacement number shown on the original battery label when a new battery is needed. See *Engine Compartment Overview* ⇨ *205* for battery location.

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⚠ Warning

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Batteries also contain other chemicals known to the State of California to cause cancer. **WASH HANDS AFTER HANDLING.**

See *California Proposition 65 Warning* ⇨ *202*.

Vehicle Storage

⚠ Warning

Batteries have acid that can burn you and gas that can explode. You can be badly hurt if you are not careful. See *Jump Starting - North America* ⇨ *262* for tips on working around a battery without getting hurt.

Infrequent Usage: Remove the black, negative (−) cable from the battery to keep the battery from running down.

Extended Storage: Remove the black, negative (−) cable from the battery or use a battery trickle charger.

All-Wheel Drive

Transfer Case

Under normal driving conditions, transfer case fluid does not require maintenance unless there is a fluid leak or unusual noise. If required, have the transfer case serviced by your dealer.

Starter Switch Check

⚠ Warning

When you are doing this inspection, the vehicle could move suddenly. If the vehicle moves, you or others could be injured.

1. Before starting this check, be sure there is enough room around the vehicle.
2. Apply both the parking brake and the regular brake.

 Do not use the accelerator pedal, and be ready to turn off the engine immediately if it starts.
3. Try to start the engine in each gear. The vehicle should start only in P (Park) or N (Neutral). If the vehicle starts in any other position, contact your dealer for service.

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Automatic Transmission Shift Lock Control Function Check

⚠ Warning

When you are doing this inspection, the vehicle could move suddenly. If the vehicle moves, you or others could be injured.

1. Before starting this check, be sure there is enough room around the vehicle. It should be parked on a level surface.
2. Apply the parking brake. Be ready to apply the regular brake immediately if the vehicle begins to move.
3. With the engine off, turn the ignition on, but do not start the engine. Without applying the regular brake, try to move the shift lever out of P (Park) with normal effort. If the shift lever moves out of P (Park), contact your dealer for service.

Ignition Transmission Lock Check

While parked and with the parking brake set, try to turn the ignition to LOCK/OFF in each shift lever position.

- The ignition should turn to LOCK/OFF only when the shift lever is in P (Park).
- The ignition key should come out only in LOCK/OFF.

Contact your dealer if service is required.

Park Brake and P (Park) Mechanism Check

⚠ Warning

When you are doing this check, the vehicle could begin to move. You or others could be injured and property could be damaged. Make sure there is room in front of the vehicle in case it begins to

(Continued)

Warning (Continued)

roll. Be ready to apply the regular brake at once should the vehicle begin to move.

Park on a fairly steep hill, with the vehicle facing downhill. Keeping your foot on the regular brake, set the parking brake.

- To check the parking brake's holding ability: With the engine running and the transmission in N (Neutral), slowly remove foot pressure from the regular brake pedal. Do this until the vehicle is held by the parking brake only.
- To check the P (Park) mechanism's holding ability: With the engine running, shift to P (Park). Then release the parking brake followed by the regular brake.

Contact your dealer if service is required.

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Wiper Blade Replacement

Windshield wiper blades should be inspected for wear and cracking. See *Maintenance Schedule* ⇨ *279*.

Replacement blades come in different types and are removed in different ways. For proper type and length, see *Maintenance Replacement Parts* ⇨ *289*.

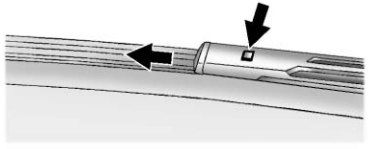
Caution

Allowing the wiper arm to touch the windshield when no wiper blade is installed could damage the windshield. Any damage that occurs would not be covered by the vehicle warranty. Do not allow the wiper arm to touch the windshield.

Front Wiper Blade Replacement

To replace the front wiper blades:

1. Lift the wiper arm from the windshield until no further movement is possible.



2. Press the square button on the top side, at the end of the wiper arm, and pull the wiper blade out of the end of the wiper arm.
3. Install the wiper blade connector by sliding into the end of the wiper arm until the square button on the wiper blade clicks into place with the wiper arm.
4. Place the wiper arm with the wiper blade in place back on the windshield.

Rear Wiper Blade Replacement

The rear wiper blade and wiper arm have a cover for protection. The cover must be removed before the wiper blade can be replaced.

To remove the cover:

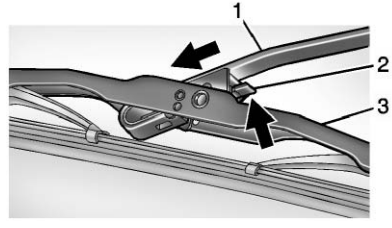


1. Slide a plastic tool under the cover and push upward to unsnap.
2. Slide the cover toward the wiper blade tip to unhook it from the blade assembly.
3. Remove the cover.
4. After wiper blade replacement, ensure that cover hook slides into the slot in the blade assembly.
5. Snap the cover down to secure.

To replace the wiper blade:

1. Lift the wiper arm away from the windshield.

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2. Push the release lever (2) to disengage the hook and push the wiper arm (1) out of the blade assembly (3).
3. Push the new blade assembly securely on the wiper arm until the release lever clicks into place.
4. Replace the wiper cover.

Headlamp Aiming

Headlamp aim has been preset and should need no further adjustment.

If the vehicle is damaged in a crash, the headlamp aim may be affected. If adjustment to the headlamps is necessary, see your dealer.

Bulb Replacement

For the proper type of replacement bulbs, see *Replacement Bulbs* ⇨ *230*.

For any bulb changing procedure not listed in this section, contact your dealer.

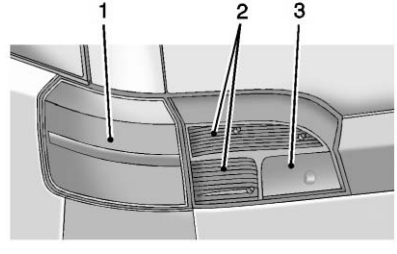
Halogen Bulbs

⚠ Warning

Halogen bulbs have pressurized gas inside and can burst if you drop or scratch the bulb. You or others could be injured. Be sure to read and follow the instructions on the bulb package.

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Taillamps, Turn Signal, Sidemarker, Stoplamps, and Back-Up Lamps

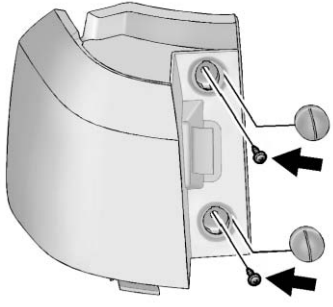


1. Stop/Tail/Turn Signal/ Sidemarker Lamp
2. Auxiliary Taillamp
3. Back-up Lamp

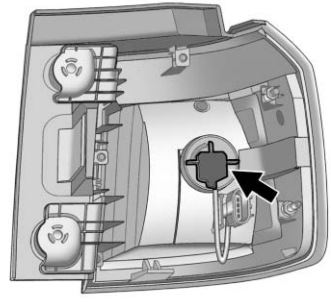
Stop/Tail/Turn Signal/ Sidemarker Lamp

To replace one of these lamps:

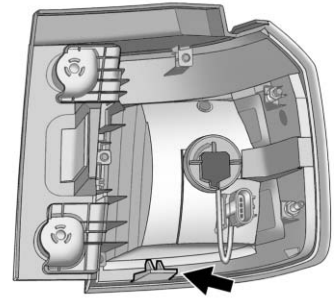
1. Open the liftgate. See *Liftgate* ⇨ *33*.
2. Remove the two screw covers from the taillamp assembly.



3. Remove the two screws securing the taillamp assembly.
4. Pull the taillamp assembly out of the vehicle body.
5. Disconnect the lamp wiring harness.



6. Turn the bulb socket counterclockwise and pull it out.
7. Pull the bulb straight out of the socket.
8. Install the new bulb.
9. Push the bulb socket in and turn it clockwise.
10. Reverse Steps 2–5 to reinstall the lamp assembly.



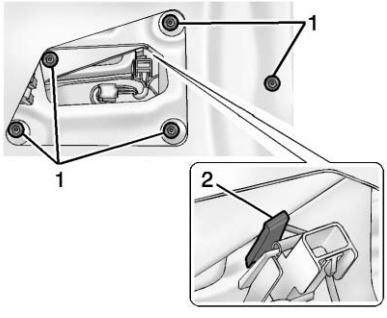
11. Verify that the taillamp assembly tab, located at the bottom of the taillamp assembly, is aligned to the fascia bracket before securing with screws.

Auxiliary Taillamp

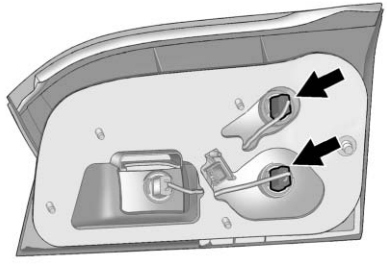
To replace one of these lamps:

1. Open the liftgate. See *Liftgate* ⇨ *33*.
2. Remove the interior trim access panel.

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3. Remove the five attachment nuts (1) securing the taillamp assembly to the liftgate.
4. Disengage the retaining hook (2) and pull the taillamp assembly out of the vehicle liftgate.
5. Disconnect the lamp wiring harness.



6. Turn the bulb socket counterclockwise and pull it out.
7. Pull the bulb straight out of the socket.
8. Install the new bulb.
9. Push the bulb socket in and turn it clockwise.
10. Reverse Steps 2–5 to reinstall lamp assembly.

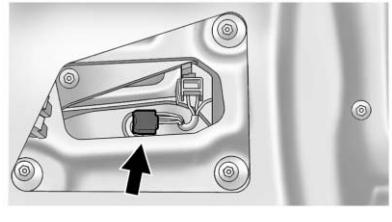
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DEALER E-PROCESS

Back–Up Lamp

Removal of the lamp assembly is not required to replace the back-up lamp bulb.

To replace one of these lamps:

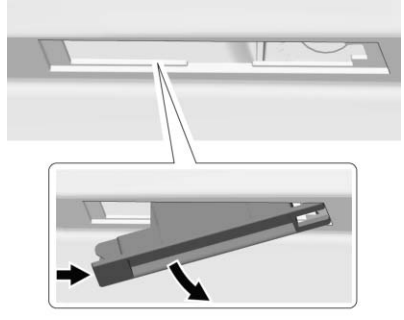
1. Open the liftgate. See *Liftgate* ⇨ *33*.
2. Remove the interior trim access panel.



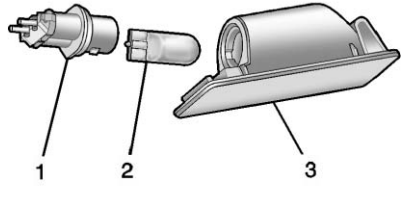
3. Turn the bulb socket counterclockwise and pull it out.
4. Pull the bulb straight out of the socket.

5. Install the new bulb.
6. Push the bulb socket in and turn it clockwise.
7. Reinstall the interior trim access panel.

License Plate Lamp



Lamp Assembly



Bulb Assembly

1. Bulb Socket
2. Bulb
3. Lamp Assembly

To replace one of these bulbs:

1. Open the liftgate partway. See *Liftgate* ⇨ *33*.
2. Push the left end of the lamp assembly toward the right.
3. Pull the lamp assembly down to remove it from the liftgate.
4. Turn the bulb socket (1) counterclockwise to remove it from the lamp assembly (3).
5. Pull the bulb (2) straight out of the bulb socket (1).
6. Push the replacement bulb straight into the bulb socket and turn the bulb socket clockwise to install it into the lamp assembly.
7. Push the lamp assembly into the liftgate engaging the clip side first.
8. Push on the lamp side opposite the clip until the lamp assembly snaps into place.

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Replacement Bulbs

Exterior Lamp	Bulb Number
Auxiliary Taillamp	161
Back-Up Lamp	921
License Plate Lamp	W5WLL
Taillamp/Turn Signal Lamp/Stop Lamp/ Sidemarker	3057K RD

For replacement bulbs not listed here, contact your dealer.

Electrical System

Fuses

The wiring circuits in the vehicle are protected from short circuits by fuses. This greatly reduces the chance of damage caused by electrical problems.

Look at the silver-colored band inside the fuse. If the band is broken or melted, replace the fuse. Be sure to replace a bad fuse with a new one of the identical size and rating.

Replace a bad fuse with a new one of the identical size and rating.

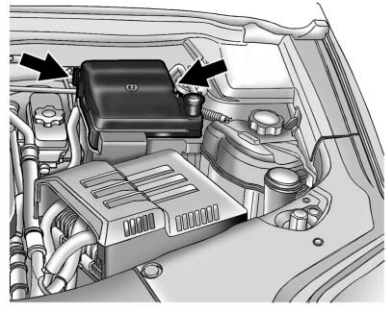
If there is a problem on the road and a fuse needs to be replaced, the same amperage fuse can be borrowed. Choose some feature of the vehicle that is not needed to use and replace it as soon as possible.

There are two fuse blocks in the vehicle: one in the engine compartment and one in the instrument panel.

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There is a fuse puller located in the engine compartment fuse block. See *Engine Compartment Fuse Block* ⇨ *230*. It can be used to easily remove fuses from the fuse block.

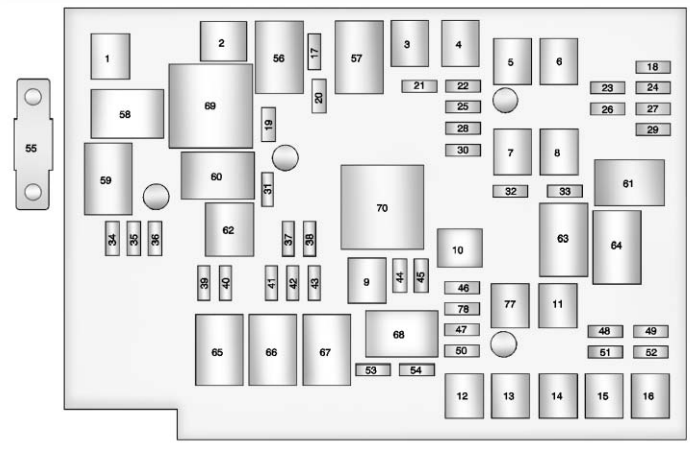
Engine Compartment Fuse Block



To remove the fuse block cover, squeeze the clips on the cover and lift it straight up. See *Engine Compartment Overview* ⇨ *205*.

Caution

Spilling liquid on any electrical component on the vehicle may damage it. Always keep the covers on any electrical component.



The vehicle may not be equipped with all of the fuses, relays, and features shown.

Fuses	Usage
1	Cooling fan 1
2	Cooling fan 2
3	Brake booster
4	Right power windows
5	Memory seat module
6	Left power seat
7	Instrument panel fuse block 1
8	Rear defogger
9	Starter
10	AIR pump motor

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Fuses	Usage
11	Instrument panel fuse block 2
12	Sunroof
13	ABS pump
14	Instrument panel fuse block 3
15	Left power windows
16	ABS module
17	Transmission control module battery
18	Trailer parking light
19	AIR pump solenoid
20	Engine control module battery
21	Canister vent
22	Left trailer side (if equipped)
23	Liftgate module
24	Power lumbar
25	Right trailer side (if equipped)

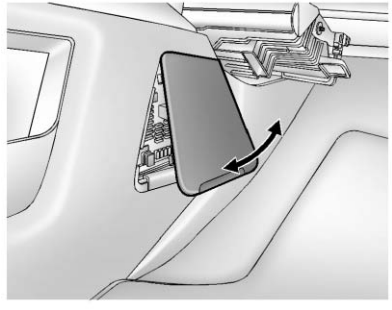
Fuses	Usage
26	Rear accessory power outlet
27	Memory mirror module
28	Regulated voltage control battery sensor
29	Front wiper
30	Rear wiper
31	A/C
32	Rear latch
33	Heated mirrors
34	Horn
35	Right high-beam headlamp
36	Left high-beam headlamp
37	Ignition coil – even
38	Ignition coil – odd
39	Windshield washer
40	Front fog lamps (if equipped)

Fuses	Usage
41	Post catalytic converter O2 sensor
42	Engine control module
43	Pre-catalytic converter O2 sensor
44	Transmission control module
45	Mirror
46	Fuel system control module/Ignition
47	–
48	Rear drive module
49	Lift gate module logic
50	Instrument panel fuse block/Ignition
51	Front heated seat
52	Fuel system control module
53	Engine control module
54	Rear vision camera

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Fuses	Usage
55	Electric power steering
56	AIR pump solenoid
57	Brake booster
58	Cooling fan – low
59	High-beam headlamps
60	Cooling fan control
61	Wiper On/Off control
62	A/C
63	Rear defogger
64	Wiper speed
65	Fog lamps
66	Engine control
67	Starter
68	Run/Crank
69	Cooling fan – high
70	AIR pump motor
77	Right power seat
78	Passenger power lumbar

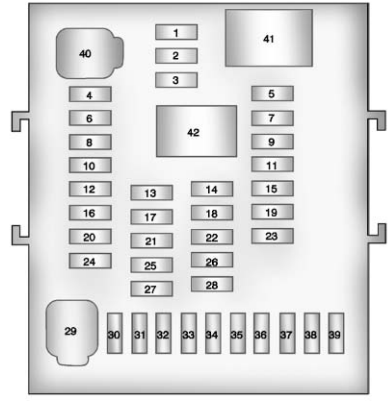
Instrument Panel Fuse Block



The instrument panel fuse block is located on the passenger side panel of the center console. To access the fuses, open the fuse panel door from the passenger side by pulling it out.

To reinstall the door, insert the tabs on the top of the door into the console first, then push the door back into its original location.

The vehicle may not be equipped with all of the fuses, relays, and features shown.



Instrument Panel Fuse Block

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Fuses	Usage
1	Steering wheel dimming
2	–
3	–
4	Body control module 1
5	Infotainment
6	Body control module 7
7	Noise control module
8	Body control module 4
9	Radio
10	–
11	Rear parking assist module
12	HVAC/Battery
13	Front auxiliary power
14	HVAC/Ignition
15	Display
16	Body control module 5
17	Rear auxiliary power
18	Instrument panel/ Ignition
19	Universal garage door opener
20	Body control module 6
21	–
22	Sensing/Diagnostic module/Ignition
23	Front vision camera
24	–
25	Transmission gear shift position indicator
26	–
27	–
28	–
29	Front blower motor
30	Body control module 3
31	Amplifier
32	Discrete logic ignition switch
33	Communications integration module
34	Body control module 2
35	Sensing/Diagnostic module battery
36	Data link connector
37	Instrument panel battery
38	Passenger sensing system module
39	–
40	Body control module 8
41	Logistic relay (if equipped)
42	Retained accessory power relay

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Wheels and Tires

Tires

Every new GM vehicle has high-quality tires made by a leading tire manufacturer. See the warranty manual for information regarding the tire warranty and where to get service. For additional information refer to the tire manufacturer.

⚠ Warning

- Poorly maintained and improperly used tires are dangerous.
- Overloading the tires can cause overheating as a result of too much flexing. There could be a blowout and a serious crash. See *Vehicle Load Limits* ⇨ *160*.

(Continued)

Warning (Continued)

- Underinflated tires pose the same danger as overloaded tires. The resulting crash could cause serious injury. Check all tires frequently to maintain the recommended pressure. Tire pressure should be checked when the tires are cold.
- Overinflated tires are more likely to be cut, punctured, or broken by a sudden impact — such as when hitting a pothole. Keep tires at the recommended pressure.
- Worn or old tires can cause a crash. If the tread is badly worn, replace them.

(Continued)

Warning (Continued)

- Replace any tires that have been damaged by impacts with potholes, curbs, etc.
- Improperly repaired tires can cause a crash. Only the dealer or an authorized tire service center should repair, replace, dismount, and mount the tires.
- Do not spin the tires in excess of 56 km/h (35 mph) on slippery surfaces such as snow, mud, ice, etc. Excessive spinning may cause the tires to explode.

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All-Season Tires

This vehicle may come with all-season tires. These tires are designed to provide good overall performance on most road surfaces and weather conditions. Original equipment tires designed to GM's specific tire performance criteria have a TPC specification code molded onto the sidewall. Original equipment all-season tires can be identified by the last two characters of this TPC code, which will be “MS.”

Consider installing winter tires on the vehicle if frequent driving on snow or ice-covered roads is expected. All-season tires provide adequate performance for most winter driving conditions, but they may not offer the same level of traction or performance as winter tires on snow or ice-covered roads. See *Winter Tires* ⇨ *236*.

Winter Tires

This vehicle was not originally equipped with winter tires. Winter tires are designed for increased traction on snow and ice-covered roads. Consider installing winter tires on the vehicle if frequent driving on ice or snow covered roads is expected. See your dealer for details regarding winter tire availability and proper tire selection. Also, see *Buying New Tires* ⇨ *249*.

With winter tires, there may be decreased dry road traction, increased road noise, and shorter tread life. After changing to winter tires, be alert for changes in vehicle handling and braking.

If using winter tires:

- Use tires of the same brand and tread type on all four wheel positions.
- Use only radial ply tires of the same size, load range, and speed rating as the original equipment tires.

Winter tires with the same speed rating as the original equipment tires may not be available for H, V, W, Y, and ZR speed rated tires. If winter tires with a lower speed rating are chosen, never exceed the tire's maximum speed capability.

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Summer Tires

This vehicle may come with high performance summer tires. These tires have a special tread and compound that are optimized for maximum dry and wet road performance. This special tread and compound will have decreased performance in cold climates, and on ice and snow. It is recommended that winter tires be installed on the vehicle if frequent driving at temperatures below approximately 5 °C (40 °F) or on ice or snow covered roads is expected. See *Winter Tires* ⇨ *236*.

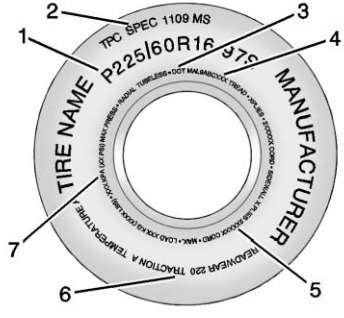
Caution
High performance summer tires have rubber compounds that lose flexibility and may develop surface cracks in the tread area at temperatures below −7 °C (Continued)

Caution (Continued)

(20 °F). Always store high performance summer tires indoors and at temperatures above −7 °C (20 °F) when not in use. If the tires have been subjected to −7 °C (20 °F) or less, let them warm up in a heated space to at least 5 °C (40 °F) for 24 hours or more before being installed or driving a vehicle on which they are installed. Do not apply heat or blow heated air directly on the tires. Always inspect tires before use. See *Tire Inspection* ⇨ *247*.

Tire Sidewall Labeling

Useful information about a tire is molded into its sidewall. The examples show a typical passenger vehicle tire and a compact spare tire sidewall.



Passenger (P-Metric) Tire Example

(1) Tire Size : The tire size is a combination of letters and numbers used to define a particular tire's width, height, aspect ratio, construction type, and service description. See the “Tire Size” illustration later in this section.

(2) TPC Spec (Tire Performance Criteria Specification) : Original equipment tires designed to GM's specific tire performance criteria have a TPC specification code molded onto the sidewall. GM's TPC specifications meet or exceed all federal safety guidelines.

(3) DOT (Department of Transportation) : The Department of Transportation (DOT) code indicates that the tire is in compliance with the U.S. Department of Transportation Motor Vehicle Safety Standards.

DOT Tire Date of Manufacture : The last four digits of the TIN indicate the tire manufactured date. The first two digits represent the week (01–52) and the last two digits, the year. For example, the third week of the year 2010 would have a four-digit DOT date of 0310.

(4) Tire Identification Number (TIN) : The letters and numbers following the DOT (Department of Transportation) code are the Tire Identification Number (TIN). The TIN shows the

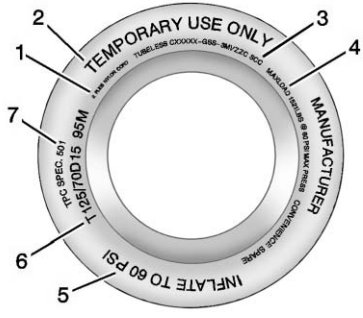
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manufacturer and plant code, tire size, and date the tire was manufactured. The TIN is molded onto both sides of the tire, although only one side may have the date of manufacture.

(5) Tire Ply Material : The type of cord and number of plies in the sidewall and under the tread.

(6) Uniform Tire Quality Grading (UTQG) : Tire manufacturers are required to grade tires based on three performance factors: treadwear, traction, and temperature resistance. For more information see *Uniform Tire Quality Grading* ⇨ *251*.

(7) Maximum Cold Inflation Load Limit : Maximum load that can be carried and the maximum pressure needed to support that load.



Compact Spare Tire Example

(1) Tire Ply Material : The type of cord and number of plies in the sidewall and under the tread.

(2) Temporary Use Only : The compact spare tire or temporary use tire should not be driven at speeds over 80 km/h (50 mph). The compact spare tire is for emergency use when a regular road tire has lost air and gone flat. If the vehicle has a compact spare tire, see *Compact Spare Tire* ⇨ *261* and *If a Tire Goes Flat* ⇨ *254*.

(3) Tire Identification Number (TIN) : The letters and numbers following the DOT (Department of Transportation) code are the Tire Identification Number (TIN). The TIN shows the manufacturer and plant code, tire size, and date the tire was manufactured. The TIN is molded onto both sides of the tire, although only one side may have the date of manufacture.

(4) Maximum Cold Inflation Load Limit : Maximum load that can be carried and the maximum pressure needed to support that load.

(5) Tire Inflation : The temporary use tire or compact spare tire should be inflated to 420 kPa (60 psi). For more information on tire pressure and inflation see *Tire Pressure* ⇨ *242*.

(6) Tire Size : A combination of letters and numbers define a tire's width, height, aspect ratio,

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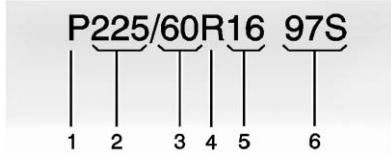
construction type, and service description. The letter T as the first character in the tire size means the tire is for temporary use only.

(7) TPC Spec (Tire Performance Criteria Specification) : Original equipment tires designed to GM's specific tire performance criteria have a TPC specification code molded onto the sidewall. GM's TPC specifications meet or exceed all federal safety guidelines.

Tire Designations

Tire Size

The following is an example of a typical passenger vehicle tire size.



(1) Passenger (P-Metric) Tire : The United States version of a metric tire sizing system. The letter P as the first character in the tire size means a passenger vehicle tire engineered to standards set by the U.S. Tire and Rim Association.

(2) Tire Width : The three-digit number indicates the tire section width in millimeters from sidewall to sidewall.

(3) Aspect Ratio : A two-digit number that indicates the tire height-to-width measurements. For example, if the tire size aspect ratio is 60, as shown in item 3 of the illustration, it would mean that the tire's sidewall is 60 percent as high as it is wide.

(4) Construction Code : A letter code is used to indicate the type of ply construction in the tire. The letter R means radial ply construction; the letter D means diagonal or bias ply construction; and the letter B means belted-bias ply construction.

(5) Rim Diameter : Diameter of the wheel in inches.

(6) Service Description : These characters represent the load index and speed rating of the tire. The load index represents the load carrying capacity a tire is certified to carry. The speed rating is the maximum speed a tire is certified to carry a load.

Tire Terminology and Definitions

Air Pressure : The amount of air inside the tire pressing outward on each square inch of

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the tire. Air pressure is expressed in kPa (kilopascal) or psi (pounds per square inch).

Accessory Weight : The combined weight of optional accessories. Some examples of optional accessories are automatic transmission, power windows, power seats, and air conditioning.

Aspect Ratio : The relationship of a tire's height to its width.

Belt : A rubber coated layer of cords between the plies and the tread. Cords may be made from steel or other reinforcing materials.

Bead : The tire bead contains steel wires wrapped by steel cords that hold the tire onto the rim.

Bias Ply Tire : A pneumatic tire in which the plies are laid at alternate angles less than 90 degrees to the centerline of the tread.

Cold Tire Pressure : The amount of air pressure in a tire, measured in kPa (kilopascal) or psi (pounds per square inch) before a tire has built up heat from driving. See *Tire Pressure* ⇨ *242*.

Curb Weight : The weight of a motor vehicle with standard and optional equipment including the maximum capacity of fuel, oil, and coolant, but without passengers and cargo.

DOT Markings : A code molded into the sidewall of a tire signifying that the tire is in compliance with the U.S. Department of Transportation (DOT) Motor Vehicle Safety Standards. The DOT code includes the Tire Identification Number (TIN), an alphanumeric designator which can also identify the tire manufacturer, production plant, brand, and date of production.

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GVWR : Gross Vehicle Weight Rating. See *Vehicle Load Limits* ⇨ *160*.

GAWR FRT : Gross Axle Weight Rating for the front axle. See *Vehicle Load Limits* ⇨ *160*.

GAWR RR : Gross Axle Weight Rating for the rear axle. See *Vehicle Load Limits* ⇨ *160*.

Intended Outboard Sidewall : The side of an asymmetrical tire that must always face outward when mounted on a vehicle.

Kilopascal (kPa) : The metric unit for air pressure.

Light Truck (LT-Metric) Tire : A tire used on light duty trucks and some multipurpose passenger vehicles.

Load Index : An assigned number ranging from 1 to 279 that corresponds to the load carrying capacity of a tire.

Maximum Inflation Pressure : The maximum air pressure to which a cold tire can be inflated. The maximum air pressure is molded onto the sidewall.

Maximum Load Rating : The load rating for a tire at the maximum permissible inflation pressure for that tire.

Maximum Loaded Vehicle Weight : The sum of curb weight, accessory weight, vehicle capacity weight, and production options weight.

Normal Occupant Weight : The number of occupants a vehicle is designed to seat multiplied by 68 kg (150 lb). See *Vehicle Load Limits ⇨ 160*.

Occupant Distribution : Designated seating positions.

Outward Facing Sidewall : The side of an asymmetrical tire that has a particular side that faces outward when mounted on a vehicle. The side of the tire that contains a whitewall, bears white lettering, or bears manufacturer, brand, and/or model name molding that is higher or deeper than the same moldings on the other sidewall of the tire.

Passenger (P-Metric) Tire : A tire used on passenger cars and some light duty trucks and multipurpose vehicles.

Recommended Inflation Pressure : Vehicle manufacturer's recommended tire inflation pressure as shown on the tire placard. See *Tire Pressure ⇨ 242* and *Vehicle Load Limits ⇨ 160*.

Radial Ply Tire : A pneumatic tire in which the ply cords that extend to the beads are laid at 90 degrees to the centerline of the tread.

Rim : A metal support for a tire and upon which the tire beads are seated.

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Sidewall : The portion of a tire between the tread and the bead.

Speed Rating : An alphanumeric code assigned to a tire indicating the maximum speed at which a tire can operate.

Traction : The friction between the tire and the road surface. The amount of grip provided.

Tread : The portion of a tire that comes into contact with the road.

Treadwear Indicators : Narrow bands, sometimes called wear bars, that show across the tread of a tire when only 1.6 mm (1/16 in) of tread remains. See *When It Is Time for New Tires ⇨ 248*.

UTQGS (Uniform Tire Quality Grading Standards) : A tire information system that provides consumers with ratings for a tire's traction, temperature, and treadwear. Ratings are

determined by tire manufacturers using government testing procedures. The ratings are molded into the sidewall of the tire. See *Uniform Tire Quality Grading* ⇨ *251*.

Vehicle Capacity Weight : The number of designated seating positions multiplied by 68 kg (150 lb) plus the rated cargo load. See *Vehicle Load Limits* ⇨ *160*.

Vehicle Maximum Load on the Tire : Load on an individual tire due to curb weight, accessory weight, occupant weight, and cargo weight.

Vehicle Placard : A label permanently attached to a vehicle showing the vehicle capacity weight and the original equipment tire size and recommended inflation pressure. See “Tire and Loading Information Label” under *Vehicle Load Limits* ⇨ *160*.

Tire Pressure

Tires need the correct amount of air pressure to operate effectively.

Caution

Neither tire underinflation nor overinflation is good. Underinflated tires, or tires that do not have enough air, can result in:

- Tire overloading and overheating which could lead to a blowout.
- Premature or irregular wear.
- Poor handling.
- Reduced fuel economy.

Overinflated tires, or tires that have too much air, can result in:

- Unusual wear.

(Continued)

Caution (Continued)

- Poor handling.
- Rough ride.
- Needless damage from road hazards.

The Tire and Loading Information label on the vehicle indicates the original equipment tires and the correct cold tire inflation pressures. The recommended pressure is the minimum air pressure needed to support the vehicle's maximum load carrying capacity. See *Vehicle Load Limits* ⇨ *160*.

How the vehicle is loaded affects vehicle handling and ride comfort. Never load the vehicle with more weight than it was designed to carry.

DEALER E-PROCESS

When to Check

Check the tires once a month or more. Do not forget the compact spare, if the vehicle has one. The cold compact spare tire pressure should be at 420 kPa (60 psi). See *Compact Spare Tire* ⇨ *261*.

How to Check

Use a good quality pocket-type gauge to check tire pressure. Proper tire inflation cannot be determined by looking at the tire. Check the tire inflation pressure when the tires are cold, meaning the vehicle has not been driven for at least three hours or no more than 1.6 km (1 mi).

Remove the valve cap from the tire valve stem. Press the tire gauge firmly onto the valve to get a pressure measurement. If the cold tire inflation pressure matches the recommended pressure on the Tire and Loading Information label, no further adjustment is necessary. If the inflation pressure is low, add air until the recommended pressure is reached. If the inflation pressure is high, press on the metal stem in the center of the tire valve to release air.

Recheck the tire pressure with the tire gauge.

Put the valve caps back on the valve stems to keep out dirt and moisture and prevent leaks. Use only valve caps designed for the vehicle by GM. TPMS sensors could be damaged and would not be covered by the vehicle warranty.

Tire Pressure Monitor System

The Tire Pressure Monitor System (TPMS) uses radio and sensor technology to check tire pressure levels. The TPMS sensors monitor the air pressure in your tires and transmit tire pressure readings to a receiver located in the vehicle.

DEALER E-PROCESS

Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a tire pressure monitoring system (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated.

Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire

tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists.

When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

See *Tire Pressure Monitor Operation* ⇨ *244*.

See *Radio Frequency Statement* ⇨ *304*.

Tire Pressure Monitor Operation

This vehicle may have a Tire Pressure Monitor System (TPMS). The TPMS is designed to warn the driver when a low tire pressure condition exists. TPMS sensors are mounted onto each tire and wheel assembly, excluding the spare tire and wheel assembly. The TPMS sensors monitor the air pressure in the tires and transmits the tire pressure readings to a receiver located in the vehicle.



When a low tire pressure condition is detected, the TPMS illuminates the low tire pressure warning light located on the instrument cluster. If the warning light comes on, stop as soon as possible and inflate the tires to the recommended pressure shown on the tire loading information label. See *Vehicle Load Limits* ⇨ *160*.

A message to check the pressure in a specific tire displays in the Driver Information Center (DIC). The low tire pressure warning light and the DIC warning message come on at each ignition cycle until the tires are inflated to the correct inflation pressure. Using the DIC, tire pressure levels can be viewed. For additional information and details

DEP DEALER E-PROCESS

about the DIC operation and displays see *Driver Information Center (DIC)* ⇨ *114*.

The low tire pressure warning light may come on in cool weather when the vehicle is first started, and then turn off as the vehicle is driven. This could be an early indicator that the air pressure is getting low and needs to be inflated to the proper pressure.

A Tire and Loading Information label shows the size of the original equipment tires and the correct inflation pressure for the tires when they are cold. See *Vehicle Load Limits* ⇨ *160*, for an example of the Tire and Loading Information label and its location. Also see *Tire Pressure* ⇨ *242*.

The TPMS can warn about a low tire pressure condition but it does not replace normal tire maintenance. See *Tire Inspection* ⇨ *247*, *Tire Rotation* ⇨ *247* and *Tires* ⇨ *235*.

Caution

Tire sealant materials are not all the same. A non-approved tire sealant could damage the TPMS sensors. TPMS sensor damage caused by using an incorrect tire sealant is not covered by the vehicle warranty. Always use only the GM approved tire sealant available through your dealer or included in the vehicle.

TPMS Malfunction Light and Message

The TPMS will not function properly if one or more of the TPMS sensors are missing or inoperable. When the system detects a malfunction, the low tire pressure warning light flashes for about one minute and then stays on for the remainder of the ignition cycle. A DIC warning message also displays. The low tire pressure warning light and DIC warning message come on at each ignition cycle until the problem is corrected. Some of the conditions that can cause these to come on are:

- One of the road tires has been replaced with the spare tire. The spare tire does not have a TPMS sensor. The malfunction light and DIC message should go off after the road tire is replaced and the sensor matching process is performed successfully. See "TPMS Sensor Matching Process" later in this section.
- The TPMS sensor matching process was not done or not completed successfully after rotating the tires. The malfunction light and the DIC message should go off after successfully completing the sensor matching process. See "TPMS Sensor Matching Process" later in this section
- One or more TPMS sensors are missing or damaged. The DIC message and the TPMS malfunction light should go off when the TPMS sensors are

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installed and the sensor matching process is performed successfully. See your dealer for service.

- Replacement tires or wheels do not match the original equipment tires or wheels. Tires and wheels other than those recommended could prevent the TPMS from functioning properly. See *Buying New Tires* ⇨ *249*.
- Operating electronic devices or being near facilities using radio wave frequencies similar to the TPMS could cause the TPMS sensors to malfunction.

If the TPMS is not functioning properly, it cannot detect or signal a low tire condition. See your dealer for service if the TPMS malfunction light and DIC message comes on and stays on.

TPMS Sensor Matching Process

Each TPMS sensor has a unique identification code. The identification code needs to be matched to a new tire/wheel position after rotating the tires or replacing one or more of the TPMS sensors. The TPMS sensor matching process should also be performed after replacing a spare tire with a road tire containing the TPMS sensor. The malfunction light and the DIC message should go off at the next ignition cycle. The sensors are matched to the tire/wheel positions, using a TPMS relearn tool, in the following order: driver side front tire, passenger side front tire, passenger side rear tire, and driver side rear. See your dealer for service or to purchase a relearn tool. A TPMS relearn tool can also be purchased. See Tire Pressure Monitor Sensor Activation Tool at www.gmtoolsandequipment.com or call 1-800-GM TOOLS (1-800-468-6657).

There are two minutes to match the first tire/wheel position, and five minutes overall to match all four tire/wheel positions. If it takes longer, the matching process stops and must be restarted.

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The TPMS sensor matching process is:

1. Set the parking brake.
2. Turn the ignition to ON/RUN with the engine off.
3. Use the MENU button to select the Vehicle Information Menu in the Driver Information Center (DIC). Use the arrow keys to scroll to the Tire Pressure screen.
4. Press the SET/CLR button to begin the sensor matching process.

 A message requesting acceptance of the process should display.
5. Press the SET/CLR button again to confirm the selection.

 The horn sounds twice to signal the receiver is in relearn mode and the TIRE LEARNING ACTIVE message displays on the DIC screen.
6. Start with the driver side front tire.

7. Place the relearn tool against the tire sidewall, near the valve stem. Then press the button to activate the TPMS sensor. A horn chirp confirms that the sensor identification code has been matched to this tire and wheel position.
8. Proceed to the passenger side front tire, and repeat the procedure in Step 7.
9. Proceed to the passenger side rear tire, and repeat the procedure in Step 7.
10. Proceed to the driver side rear tire, and repeat the procedure in Step 7. The horn sounds two times to indicate the sensor identification code has been matched to the driver side rear tire, and the TPMS sensor matching process is no longer active. The TIRE LEARNING ACTIVE message on the DIC display screen goes off.
11. Turn the ignition to LOCK/OFF.
12. Set all four tires to the recommended air pressure level as indicated on the Tire and Loading Information label.

Tire Inspection

We recommend that the tires, including the spare tire, if the vehicle has one, be inspected for signs of wear or damage at least once a month.

Replace the tire if:

- The indicators at three or more places around the tire can be seen.
- There is cord or fabric showing through the tire's rubber.
- The tread or sidewall is cracked, cut, or snagged deep enough to show cord or fabric.
- The tire has a bump, bulge, or split.
- The tire has a puncture, cut, or other damage that cannot be repaired well because of the size or location of the damage.

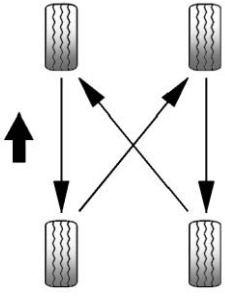
Tire Rotation

Tires should be rotated every 12 000 km (7,500 mi). See *Maintenance Schedule* ⇨ *279*.

Tires are rotated to achieve a more uniform wear for all tires. The first rotation is the most important.

Anytime unusual wear is noticed, rotate the tires as soon as possible, check for proper tire inflation pressure, and check for damaged tires or wheels. If the unusual wear continues after the rotation, check the wheel alignment. See *When It Is Time for New Tires* ⇨ *248* and *Wheel Replacement* ⇨ *252*.

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Use this rotation pattern when rotating the tires.

Do not include the compact spare tire in the tire rotation.

Adjust the front and rear tires to the recommended inflation pressure on the Tire and Loading Information label after the tires have been rotated. See *Tire Pressure* ⇨ *242* and *Vehicle Load Limits* ⇨ *160*.

Reset the Tire Pressure Monitor System. See *Tire Pressure Monitor Operation* ⇨ *244*.

Check that all wheel nuts are properly tightened. See “Wheel Nut Torque” under *Capacities and Specifications* ⇨ *292*.

⚠ Warning

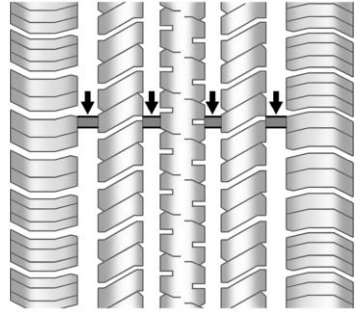
Rust or dirt on a wheel, or on the parts to which it is fastened, can make wheel nuts become loose after time. The wheel could come off and cause an accident. When changing a wheel, remove any rust or dirt from places where the wheel attaches to the vehicle. In an emergency, a cloth or a paper towel can be used; however, use a scraper or wire brush later to remove all rust or dirt.

Lightly coat the center of the wheel hub with wheel bearing grease after a wheel change or tire rotation to prevent corrosion or rust build-up. Do not get grease on the flat wheel mounting surface or on the wheel nuts or bolts.

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When It Is Time for New Tires

Factors such as maintenance, temperatures, driving speeds, vehicle loading, and road conditions affect the wear rate of the tires.



Treadwear indicators are one way to tell when it is time for new tires. Treadwear indicators appear when the tires have only 1.6 mm (1/16 in) or less of tread remaining. See *Tire Inspection* ⇨ *247* and *Tire Rotation* ⇨ *247*.

The rubber in tires ages over time. This also applies to the spare tire, if the vehicle has one, even if it is never used. Multiple factors including temperatures, loading conditions, and inflation pressure maintenance affect how fast aging takes place. GM recommends that tires, including the spare if equipped, be replaced after six years, regardless of tread wear. The tire manufacture date is the last four digits of the DOT Tire Identification Number (TIN) which is molded into one side of the tire sidewall. The first two digits represent the week (01–52) and the last two digits, the year. For example, the third week of the year 2010 would have a four-digit DOT date of 0310.

Vehicle Storage

Tires age when stored normally mounted on a parked vehicle. Park a vehicle that will be stored for at least a month in a cool, dry, clean area away from direct sunlight to slow aging. This area should be free of grease, gasoline, or other substances that can deteriorate rubber.

Parking for an extended period can cause flat spots on the tires that may result in vibrations while driving. When storing a vehicle for at least a month, remove the tires or raise the vehicle to reduce the weight from the tires.

Buying New Tires

GM has developed and matched specific tires for the vehicle. The original equipment tires installed were designed to meet General Motors Tire Performance Criteria Specification (TPC Spec) system rating. When replacement tires are needed, GM strongly recommends buying tires with the same TPC Spec rating.

GM's exclusive TPC Spec system considers over a dozen critical specifications that impact the overall performance of the vehicle, including brake system performance, ride and handling, traction control, and tire pressure monitoring performance. GM's TPC Spec number is molded onto the tire's sidewall near the tire size. If the tires have an all-season tread design, the TPC Spec number will be followed by MS for mud and snow. See *Tire Sidewall Labeling* ⇨ *237*.

GM recommends replacing worn tires in complete sets of four. Uniform tread depth on all tires will help to maintain the performance of the vehicle. Braking and handling performance may be adversely affected if all the tires are not replaced at the same time. If proper rotation and maintenance have been done, all four tires should wear out at about the same time. See *Tire Rotation* ⇨ *247*. However, if it is

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necessary to replace only one axle set of worn tires, place the new tires on the rear axle.

Winter tires with the same speed rating as the original equipment tires may not be available for H, V, W, Y and ZR speed rated tires. Never exceed the winter tires' maximum speed capability when using winter tires with a lower speed rating.

⚠ Warning

Tires could explode during improper service. Attempting to mount or dismount a tire could cause injury or death. Only your dealer or authorized tire service center should mount or dismount the tires.

⚠ Warning

Mixing tires of different sizes, brands, or types may cause loss of control of the vehicle, resulting in a crash or other vehicle damage. Use the correct size, brand, and type of tires on all wheels.

⚠ Warning

Using bias-ply tires on the vehicle may cause the wheel rim flanges to develop cracks after many miles of driving. A tire and/or wheel could fail suddenly and cause a crash. Use only radial-ply tires with the wheels on the vehicle.

If the vehicle tires must be replaced with a tire that does not have a TPC Spec number, make sure they are the same size, load range, speed rating, and construction (radial) as the original tires.

Vehicles that have a tire pressure monitoring system could give an inaccurate low-pressure warning if non-TPC Spec rated tires are installed. See *Tire Pressure Monitor System* ⇨ *243*.

The Tire and Loading Information label indicates the original equipment tires on the vehicle. See *Vehicle Load Limits* ⇨ *160*.

Different Size Tires and Wheels

If wheels or tires are installed that are a different size than the original equipment wheels and tires, vehicle performance, including its braking, ride and handling characteristics, stability, and resistance to rollover may be affected. If the vehicle has electronic systems such as antilock brakes, rollover airbags, roll bars,

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traction control, electronic stability control, or All-Wheel Drive, the performance of these systems can also be affected.

⚠ Warning

If different sized wheels are used, there may not be an acceptable level of performance and safety if tires not recommended for those wheels are selected. This increases the chance of a crash and serious injury. Only use GM specific wheel and tire systems developed for the vehicle, and have them properly installed by a GM certified technician.

See *Buying New Tires* ⇨ *249* and *Accessories and Modifications* ⇨ *202*.

Uniform Tire Quality Grading

The following information relates to the system developed by the United States National Highway Traffic Safety Administration (NHTSA), which grades tires by treadwear, traction, and temperature performance. This applies only to vehicles sold in the United States. The grades are molded on the sidewalls of most passenger car tires. The Uniform Tire Quality Grading (UTQG) system does not apply to deep tread, winter tires, compact spare tires, tires with nominal rim diameters of 10 to 12 inches (25 to 30 cm), or to some limited-production tires.

While the tires available on General Motors passenger cars and light trucks may vary with respect to these grades, they must also conform to federal safety requirements and additional General Motors Tire Performance Criteria (TPC) standards.

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Quality grades can be found where applicable on the tire sidewall between tread shoulder and maximum section width. For example:

Treadwear 200 Traction AA Temperature A

All Passenger Car Tires Must Conform to Federal Safety Requirements In Addition To These Grades.

Treadwear

The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear one and one-half (1½) times as well on the government course as a tire graded 100. The relative performance of tires depends upon the actual conditions of their use, however, and may depart significantly from the

norm due to variations in driving habits, service practices and differences in road characteristics and climate.

Traction

The traction grades, from highest to lowest, are AA, A, B, and C. Those grades represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance. Warning: The traction grade assigned to this tire is based on straight-ahead braking traction tests, and does not include acceleration, cornering, hydroplaning, or peak traction characteristics.

Temperature

The temperature grades are A (the highest), B, and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. The grade C corresponds to a level of performance which all passenger car tires must meet under the Federal Motor Safety Standard No. 109. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law. Warning: The temperature grade for this tire is established for a tire that is properly inflated and not overloaded. Excessive speed, underinflation, or excessive loading, either separately or in combination, can cause heat buildup and possible tire failure.

Wheel Alignment and Tire Balance

The tires and wheels were aligned and balanced at the factory to provide the longest tire life and best overall performance. Adjustments to wheel alignment and tire balancing are not necessary on a regular basis. Consider an alignment check if there is unusual tire wear or the vehicle is significantly pulling to one side or the other. Some slight pull to the left or right, depending on the crown of the road and/or other road surface variations such as troughs or ruts, is normal. If the vehicle is vibrating when driving on a smooth road, the tires and wheels may need to be rebalanced. See your dealer for proper diagnosis.

Wheel Replacement

Replace any wheel that is bent, cracked, or badly rusted or corroded. If wheel nuts keep coming loose, the wheel, wheel bolts, and wheel nuts should be replaced. If the wheel leaks air, replace it.

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Some aluminum wheels can be repaired. See your dealer if any of these conditions exist.

Your dealer will know the kind of wheel that is needed.

Each new wheel should have the same load-carrying capacity, diameter, width, offset, and be mounted the same way as the one it replaces.

Replace wheels, wheel bolts, wheel nuts, or Tire Pressure Monitor System (TPMS) sensors with new GM original equipment parts.

⚠ Warning

Using the wrong replacement wheels, wheel bolts, or wheel nuts can be dangerous. It could affect the braking and handling of the vehicle. Tires can lose air, and cause loss of control, causing a crash. Always use the correct wheel, wheel bolts, and wheel nuts for replacement.

Caution

The wrong wheel can also cause problems with bearing life, brake cooling, speedometer or odometer calibration, headlamp aim, bumper height, vehicle ground clearance, and tire or tire chain clearance to the body and chassis.

Used Replacement Wheels

⚠ Warning

Replacing a wheel with a used one is dangerous. How it has been used or how far it has been driven may be unknown. It could fail suddenly and cause a crash. When replacing wheels, use a new GM original equipment wheel.

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Tire Chains

⚠ Warning

Do not use tire chains. There is not enough clearance. Tire chains used on a vehicle without the proper amount of clearance can cause damage to the brakes, suspension or other vehicle parts. The area damaged by the tire chains could cause you to lose control of the vehicle and you or others may be injured in a crash.

A Type S low-profile cable can be used only if the cable manufacturer recommends it for use on the vehicle, the tire size combination, and road conditions. Follow the manufacturer's instructions. To help avoid damage to the vehicle, drive slowly, readjust or remove the cable if it is contacting the vehicle and do not spin the vehicle's tires. Install the cables on the front tires

(Continued)

Warning (Continued)

only. Cables should not be installed on the spare tire or on the optional 19-inch tire.

If a Tire Goes Flat

It is unusual for a tire to blow out while driving, especially if the tires are maintained properly. See *Tires ⇨ 235*. If air goes out of a tire, it is much more likely to leak out slowly. But if there ever is a blowout, here are a few tips about what to expect and what to do:

If a front tire fails, the flat tire creates a drag that pulls the vehicle toward that side. Take your foot off the accelerator pedal and grip the steering wheel firmly. Steer to maintain lane position, and then gently brake to a stop, well off the road, if possible.

A rear blowout, particularly on a curve, acts much like a skid and may require the same correction as used in a skid. Stop pressing the accelerator pedal and steer to straighten the vehicle. It may be very bumpy and noisy. Gently brake to a stop, well off the road, if possible.

⚠ Warning

Driving on a flat tire will cause permanent damage to the tire. Re-inflating a tire after it has been driven on while severely underinflated or flat may cause a blowout and a serious crash. Never attempt to re-inflate a tire that has been driven on while severely underinflated or flat. Have your dealer or an authorized tire service center repair or replace the flat tire as soon as possible.

⚠ Warning

Lifting a vehicle and getting under it to do maintenance or repairs is dangerous without the

(Continued)

Warning (Continued)

appropriate safety equipment and training. If a jack is provided with the vehicle, it is designed only for changing a flat tire. If it is used for anything else, you or others could be badly injured or killed if the vehicle slips off the jack. If a jack is provided with the vehicle, only use it for changing a flat tire.

If a tire goes flat, avoid further tire and wheel damage by driving slowly to a level place, well off the road, if possible. Turn on the hazard warning flashers. See *Hazard Warning Flashers ⇨ 136*.

⚠ Warning

Changing a tire can be dangerous. The vehicle can slip off the jack and roll over or fall causing injury or death. Find a

(Continued)

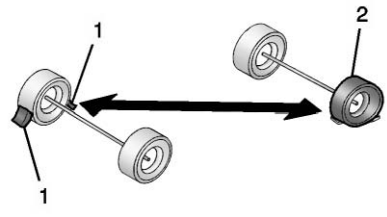
DEALER E-PROCESS

Warning (Continued)

level place to change the tire. To help prevent the vehicle from moving:

1. Set the parking brake firmly.
2. Put an automatic transmission in P (Park) or a manual transmission in 1 (First) or R (Reverse).
3. Turn off the engine and do not restart while the vehicle is raised.
4. Do not allow passengers to remain in the vehicle.
5. Place wheel blocks, if equipped, on both sides of the tire at the opposite corner of the tire being changed.

When the vehicle has a flat tire (2), use the following example as a guide to assist in the placement of the wheel blocks (1), if equipped.

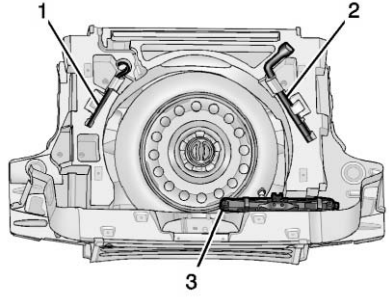


1. Wheel Block (If Equipped)
2. Flat Tire

The following information explains how to repair or change a tire.

Tire Changing

Removing the Spare Tire and Tools



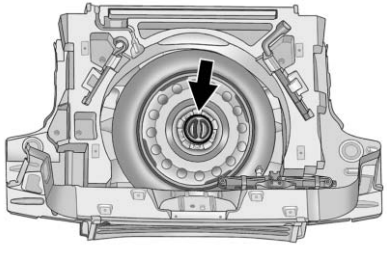
1. Extension
2. Wheel Wrench
3. Jack

To access the spare tire and tools:

1. Open the liftgate. See *Liftgate* ⇨ *33*.
2. Lift the load floor up.
3. Remove the extension (1), wheel wrench (2) and jack (3).

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Place the tools next to the tire being changed.



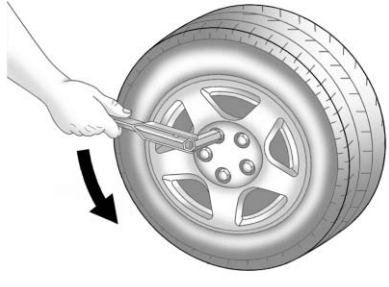
4. Turn the retainer nut counterclockwise and remove the spare tire.

 Place either end of the extension into a retainer hole to loosen the retainer nut if unable to by hand.

5. Place the spare tire next to the tire being changed.

Removing the Flat Tire and Installing the Spare Tire

1. Do a safety check before proceeding. See *If a Tire Goes Flat* ⇨ *254* for more information.
2. For vehicles with a wheel cover or center cap, pull the cover or center cap away from the wheel to remove it. Store the wheel cover in the cargo area until you have the flat tire repaired or replaced.

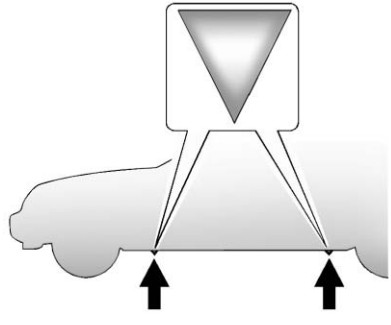


3. Turn the wheel wrench counterclockwise to loosen all the wheel nuts, but do not remove them yet.

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Caution

Make sure that the jack lift head is in the correct position or you may damage your vehicle. The repairs would not be covered by your warranty.



4. Position the jack lift head at the jack location nearest the flat tire. The location is indicated by a mark on the bottom edge of the front and rear door plastic molding. The jack must not be used in any other position.

5. Place the jack notch under the frame rail seam.

⚠ Warning

Getting under a vehicle when it is lifted on a jack is dangerous. If the vehicle slips off the jack, you could be badly injured or killed. Never get under a vehicle when it is supported only by a jack.

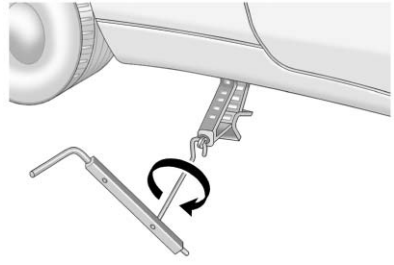
⚠ Warning

Raising the vehicle with the jack improperly positioned can damage the vehicle and even make the vehicle fall. To help avoid personal injury and vehicle damage, be sure to fit the jack lift head into the proper location before raising the vehicle.

⚠ Warning

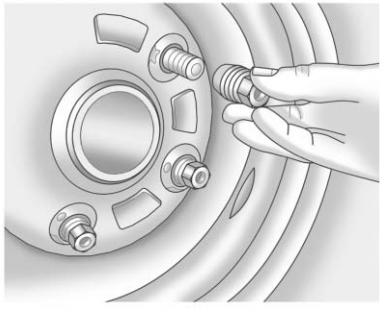
Lifting a vehicle and getting under it to do maintenance or repairs is dangerous without the appropriate safety equipment and training. If a jack is provided with the vehicle, it is designed only for changing a flat tire. If it is used for anything else, you or others could be badly injured or killed if the vehicle slips off the jack. If a jack is provided with the vehicle, only use it for changing a flat tire.

6. Place the jack under the vehicle.
7. Attach the jack handle extension to the jack by sliding the hook through the end of the jack and insert the other end of the jack handle into the wrench.



8. Raise the vehicle by turning the jack handle clockwise. Raise the vehicle far enough off the ground so there is enough room for the road tire to clear the ground.

DEP DEALER E-PROCESS



9. Remove all of the wheel nuts.
10. Remove the flat tire.

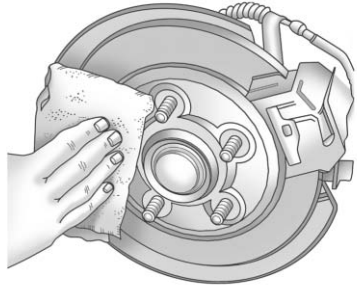
⚠ Warning

Rust or dirt on a wheel, or on the parts to which it is fastened, can make wheel nuts become loose after time. The wheel could come off and cause an accident. When changing a wheel, remove any rust or dirt from places where the wheel attaches to the vehicle. In an emergency, a cloth or a paper

(Continued)

Warning (Continued)

towel can be used; however, use a scraper or wire brush later to remove all rust or dirt.



11. Remove any rust or dirt from the wheel bolts, mounting surfaces, and spare wheel.
12. Place the compact spare tire on the wheel-mounting surface.

⚠ Warning

Never use oil or grease on bolts or nuts because the nuts might come loose. The vehicle's wheel could fall off, causing a crash.

13. Reinstall the wheel nuts. Tighten each nut by hand until the wheel is held against the hub.
14. Lower the vehicle by turning the jack handle counterclockwise.

⚠ Warning

Wheel nuts that are improperly or incorrectly tightened can cause the wheels to become loose or come off. The wheel nuts should be tightened with a torque wrench to the proper torque specification after replacing. Follow the torque specification supplied by the aftermarket manufacturer when using accessory locking wheel

(Continued)

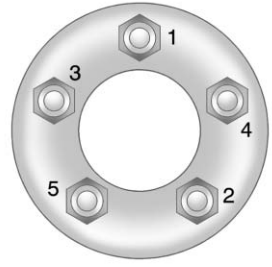
DEP DEALER E-PROCESS

Warning (Continued)

nuts. See *Capacities and Specifications* ⇨ *292* for original equipment wheel nut torque specifications.

Caution

Improperly tightened wheel nuts can lead to brake pulsation and rotor damage. To avoid expensive brake repairs, evenly tighten the wheel nuts in the proper sequence and to the proper torque specification. See *Capacities and Specifications* ⇨ *292* for the wheel nut torque specification.



15. Tighten the wheel nuts firmly in a crisscross sequence, as shown.
16. Lower the jack all the way and remove the jack from under the vehicle.
17. Tighten the wheel nuts firmly with the wheel wrench.

When reinstalling the wheel cover or center cap on the full-size tire, tighten all five plastic caps hand snug with the aid of the wheel wrench and tighten them with the wheel wrench an additional one-quarter of a turn.

DEP
DEALER E-PROCESS

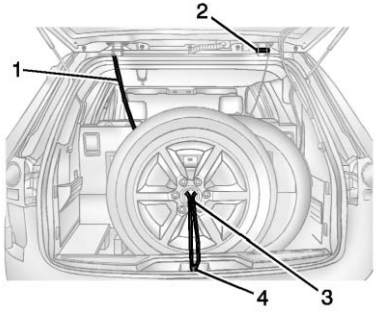
Caution

Wheel covers will not fit on the vehicle's compact spare. If you try to put a wheel cover on the compact spare, the cover or the spare could be damaged.

Storing a Flat or Spare Tire and Tools

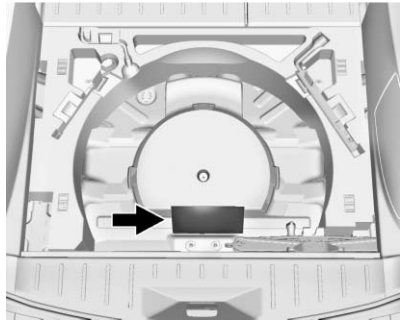
⚠ Warning

Storing a jack, a tire, or other equipment in the passenger compartment of the vehicle could cause injury. In a sudden stop or collision, loose equipment could strike someone. Store all these in the proper place.

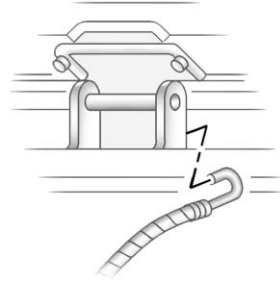


1. Cable
2. Liftgate Hinges
3. Center of the Wheel
4. Door Striker

To store the flat tire:



1. Remove the cable package. The cable is stored in a plastic bag under the compact spare tire.
2. Remove the small center cap by tapping the back of the cap with the extension of the shaft, if the vehicle has aluminum wheels.
3. Put the flat tire in the rear storage area with the valve stem pointing toward the rear of the vehicle.
4. Pull the cable (1) through the door striker (4) then the center of the wheel (3).



5. Hook the cable onto the outside portion of the liftgate hinges (2).
6. Hook the other end of the cable onto the outside portion of the liftgate hinge on the other side of the vehicle.
7. Pull on the cable to make sure it is secure.

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DEALER E-PROCESS



8. Make sure the metal tube is centered at the striker. Push the tube toward the front of the vehicle.
9. Close the liftgate and make sure it is latched properly.

The compact spare is for temporary use only. Replace the compact spare tire with a full-size tire as soon as you can.

Compact Spare Tire

⚠ Warning

Driving with more than one compact spare tire at a time could result in loss of braking and handling. This could lead to a crash and you or others could be injured. Use only one compact spare tire at a time.

If this vehicle has a compact spare tire, it was fully inflated when new; however, it can lose air over time. Check the inflation pressure regularly. It should be 420 kPa (60 psi).

Stop as soon as possible and check that the spare tire is correctly inflated after being installed on the vehicle. The compact spare tire is designed for temporary use only. The vehicle will perform differently with the spare tire installed and it is recommended that the vehicle speed be limited to 80 km/h (50 mph). To conserve the tread of the spare tire, have the standard tire repaired or replaced as soon as convenient and return the spare tire to the storage area.

When using a compact spare tire, the AWD (if equipped), ABS, and Traction Control systems may engage until the spare tire is recognized by the vehicle, especially on slippery roads. Adjust driving to reduce possible wheel slip.

Caution

When the compact spare is installed, do not take the vehicle through an automatic car wash with guide rails. The compact spare can get caught on the rails which can damage the tire, wheel, and other parts of the vehicle.

Do not use the compact spare on other vehicles.

Do not mix the compact spare tire or wheel with other wheels or tires. They will not fit. Keep the spare tire and its wheel together.

DEALER E-PROCESS

Caution

Tire chains will not fit the compact spare. Using them can damage the vehicle and the chains. Do not use tire chains on the compact spare.

Jump Starting

Jump Starting - North America

For more information about the vehicle battery, see *Battery - North America* ⇨ 222.

Jump starting can be used on vehicles with run-down batteries by using jumper cables and another vehicle.

⚠ Warning

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Batteries also contain other chemicals known to the State of California to cause cancer. **WASH HANDS AFTER HANDLING.**

See *California Proposition 65 Warning* ⇨ 202.

⚠ Warning

Batteries can hurt you. They can be dangerous because:

- They contain acid that can burn you.
- They contain gas that can explode or ignite.
- They contain enough electricity to burn you.

If you do not follow these steps exactly, some or all of these things can hurt you.

⚠ Warning

Using a match near a battery can cause battery gas to explode. People have been hurt doing this, and some have been blinded. Use a flashlight if you need more light.

(Continued)

DEALER E-PROCESS

Warning (Continued)

Battery fluid contains acid that can burn you. Do not get it on you. If you accidentally get it in your eyes or on your skin, flush the place with water and get medical help immediately.

Be sure to use the following steps to do it safely. Ignoring these steps could result in costly damage to the vehicle that would not be covered by the warranty.

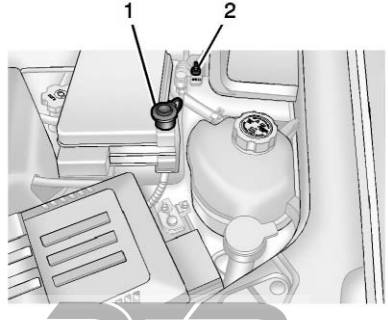
Trying to start the vehicle by pushing or pulling it will not work, and it could damage the vehicle.

Caution

If any accessories are left on or plugged in during the jump starting procedure, they could be damaged. The repairs would not be covered by the vehicle warranty. Whenever possible, turn off or unplug all accessories on either vehicle when jump starting.

Caution

If the jumper cables are connected or removed in the wrong order, electrical shorting may occur and damage the vehicle. The repairs would not be covered by the vehicle warranty. Always connect and remove the jumper cables in the correct order, making sure that the cables do not touch each other or other metal.



1. Remote Positive (+) Terminal
2. Remote Negative (−) Terminal

1. The vehicle used to jump start must have a 12-volt battery with a negative ground.

Caution

If the other vehicle does not have a 12-volt system with a negative ground, both vehicles can be damaged. Only use a vehicle that has a 12-volt system with a negative ground for jump starting.

2. The vehicles should be close enough for the jumper cables to reach, but the vehicles should not be touching. Touching could cause grounding and possible electrical system damage.

 Put both vehicles in P (Park) and set the parking brake firmly.

3. Unplug accessories plugged into the cigarette lighter or the accessory power outlet. Turn

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off the radio and all lamps that are not needed. Turn off the ignition on both vehicles.

4. Locate the positive (+) and negative (−) terminals on both vehicles. Some vehicles have remote jump starting terminals.

⚠ Warning

An electric fan can start up even when the engine is not running and can injure you. Keep hands, clothing, and tools away from any underhood electric fan.

5. The remote positive (+) terminal (1) is located on the underhood fuse block, on the driver side. Lift the red cap to uncover the terminal.

 The remote negative (−) terminal (2) is a stud behind the metal tab stamped with GND (−) near the driver side strut tower.

6. The jumper cables should be in good working condition with no loose or missing insulation. The vehicles could be damaged if they are not.
7. Connect the red positive (+) cable to the positive (+) terminal on the vehicle with the dead battery. Use a remote positive (+) terminal if the vehicle has one.
8. Do not let the other end touch metal. Connect it to the positive (+) terminal of the good battery. Use a remote positive (+) terminal if the vehicle has one.
9. Connect the black negative (−) cable to the negative (−) terminal of the good battery. Use a remote negative (−) terminal if the vehicle has one.

 Do not let the other end touch anything until the next step. The other end of the negative (−) cable does not go to the dead battery. It goes to a heavy, unpainted metal engine part or to a remote negative (−) terminal on the vehicle with the dead battery.
10. Connect the other end of the negative (−) cable away from the dead battery, but not near engine parts that move.
11. Start the vehicle with the good battery and run the engine.
12. Press the unlock symbol on the Remote Keyless Entry (RKE) transmitter to disarm the security system, if equipped.
13. Try to start the vehicle that had the dead battery. If it will not start after a few tries, it needs service.

Caution

If the jumper cables are connected or removed in the wrong order, electrical shorting may occur and damage the vehicle. The repairs would not be covered by the vehicle warranty. Always connect and remove the

(Continued)

DEALER E-PROCESS

Caution (Continued)
jumper cables in the correct order, making sure that the cables do not touch each other or other metal.

Jumper Cable Removal

Reverse the sequence exactly when removing the jumper cables.

After starting the disabled vehicle and removing the jumper cables, allow it to idle for several minutes.

Towing the Vehicle

Caution
Incorrectly towing a disabled vehicle may cause damage. The damage would not be covered by the vehicle warranty. Do not lash or hook to suspension components. Use the proper straps around the tires to secure the vehicle.

Use only a flatbed tow truck for towing a disabled vehicle. Never use a sling type lift or damage will occur. Use ramps to help reduce approach angles if necessary. A towed vehicle should have its drive wheels off the ground.

Consult a professional towing service if the disabled vehicle must be towed.

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DEALER E-PROCESS

Recreational Vehicle Towing

Recreational vehicle towing means towing the vehicle behind another vehicle – such as behind a motor home. The two most common types of recreational vehicle towing are known as dinghy towing and dolly towing. Dinghy towing is towing the vehicle with all four wheels on the ground. Dolly towing is towing the vehicle with two wheels on the ground and two wheels up on a device known as a dolly.

Here are some important things to consider before recreational vehicle towing:

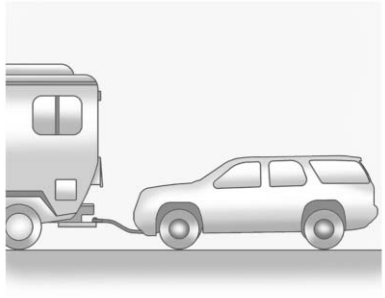
- The towing capacity of the towing vehicle. Be sure to read the tow vehicle manufacturer's recommendations.
- How far the vehicle will be towed. Some vehicles have restrictions on how far and how long they can tow.

- The proper towing equipment. See your dealer or trailering professional for additional advice and equipment recommendations.
- If the vehicle is ready to be towed. Just as preparing the vehicle for a long trip, make sure the vehicle is prepared to be towed.

Dinghy Towing

Front-wheel-drive and all-wheel-drive vehicles may be dinghy towed from the front. These vehicles can also be towed by placing them on a platform trailer with all four wheels off of the ground. For other towing options, see “Dolly Towing” following in this section.

For vehicles being dinghy towed, the vehicle should be run at the beginning of each day and at each RV fuel stop for about five minutes. This will ensure proper lubrication of transmission components.



To tow the vehicle from the front with all four wheels on the ground:

1. Position the vehicle to be towed and secure it to the towing vehicle.
2. Turn the ignition key to ON/RUN.
3. Shift the transmission to N (Neutral).
4. Turn the ignition key to ACC/ ACCESSORY.
5. Turn all accessories off.
6. To prevent the battery from draining while the vehicle is being towed, remove fuse 32, the Discrete Logic Ignition Switch fuse, from the instrument panel fuse block and store it in a safe location. See *Instrument Panel Fuse Block* ⇨ *233*.

Caution

If the vehicle is towed without performing each of the steps listed under “Dinghy Towing,” the automatic transmission could be damaged. Be sure to follow all steps of the dinghy towing procedure prior to and after towing the vehicle.

Caution

If 105 km/h (65 mph) is exceeded while towing the vehicle, it could be damaged. Never exceed 105 km/h (65 mph) while towing the vehicle.

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Once the destination is reached:

1. Set the parking brake.
2. Shift the transmission to P (Park).
3. Turn the ignition key to LOCK/OFF.
4. Install fuse 32, the Discrete Logic Ignition Switch fuse. See *Instrument Panel Fuse Block* ⇨ *233*.
5. Start the engine and let it idle for more than three minutes before driving the vehicle.

Caution

Do not tow a vehicle with the front drive wheels on the ground if one of the front tires is a compact spare tire. Towing with two different tire sizes on the front of the vehicle can cause severe damage to the transmission.

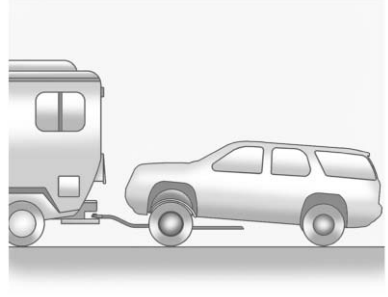
Caution

Use of a shield mounted in front of the vehicle grille could restrict airflow and cause damage to the transmission. The repairs would not be covered by the vehicle warranty. If using a shield, only use one that attaches to the towing vehicle.

Dolly Towing (All-Wheel-Drive Vehicles)

All-wheel-drive vehicles should not be towed with two wheels on the ground. To properly tow these vehicles, they should be placed on a platform trailer with all four wheels off of the ground or dinghy towed from the front.

Dolly Towing (Front-Wheel-Drive Vehicles)

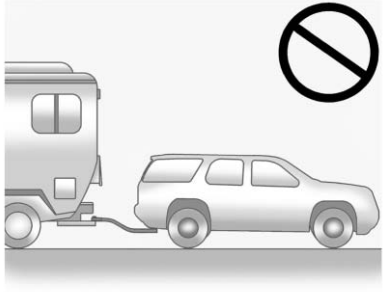


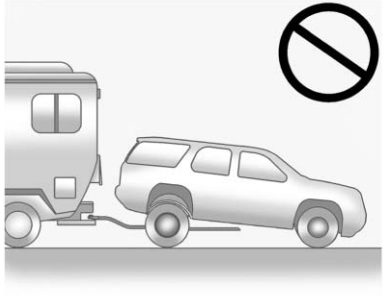
To tow the vehicle from the front with the rear wheels on the ground:

1. Put the front wheels on a dolly.
2. Move the shift lever to P (Park).
3. Set the parking brake.
4. Secure the vehicle to the dolly.
5. Follow the dolly manufacturer's instructions for preparing the vehicle and dolly for towing.
6. Release the parking brake.

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Towing the Vehicle from the Rear





Caution
Towing the vehicle from the rear could damage it. Also, repairs would not be covered by the vehicle warranty. Never have the vehicle towed from the rear.

Appearance Care

Exterior Care

Locks

Locks are lubricated at the factory. Use a de-icing agent only when absolutely necessary, and have the locks greased after using. See *Recommended Fluids and Lubricants* ⇨ *288*.

Washing the Vehicle

To preserve the vehicle's finish, wash it often and out of direct sunlight.

Caution
Do not use petroleum-based, acidic, or abrasive cleaning agents as they can damage the vehicle's paint, metal, or plastic parts. If damage occurs, it would not be covered by the vehicle warranty. Approved cleaning products can be obtained from
(Continued)

DEP DEALER E-PROCESS

Caution (Continued)

your dealer. Follow all manufacturer directions regarding correct product usage, necessary safety precautions, and appropriate disposal of any vehicle care product.

Caution

Avoid using high-pressure washes closer than 30 cm (12 in) to the surface of the vehicle. Use of power washers exceeding 8,274 kPa (1,200 psi) can result in damage or removal of paint and decals.

Caution

Do not power wash any component under the hood that has this  symbol.

(Continued)

Caution (Continued)

This could cause damage that would not be covered by the vehicle warranty.

If using an automatic car wash, follow the car wash instructions. The windshield wiper and rear window wiper, if equipped, must be off. Remove any accessories that may be damaged or interfere with the car wash equipment.

Rinse the vehicle well, before washing and after, to remove all cleaning agents completely. If they are allowed to dry on the surface, they could stain.

Dry the finish with a soft, clean chamois or an all-cotton towel to avoid surface scratches and water spotting.

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DEALER E-PROCESS

Finish Care

Application of aftermarket clearcoat sealant/wax materials is not recommended. If painted surfaces are damaged, see your dealer to have the damage assessed and repaired. Foreign materials such as calcium chloride and other salts, ice melting agents, road oil and tar, tree sap, bird droppings, chemicals from industrial chimneys, etc., can damage the vehicle's finish if they remain on painted surfaces. Wash the vehicle as soon as possible. If necessary, use non-abrasive cleaners that are marked safe for painted surfaces to remove foreign matter.

Occasional hand waxing or mild polishing should be done to remove residue from the paint finish. See your dealer for approved cleaning products.

Do not apply waxes or polishes to uncoated plastic, vinyl, rubber, decals, simulated wood, or flat paint as damage can occur.

Caution

Machine compounding or aggressive polishing on a basecoat/clearcoat paint finish may damage it. Use only non-abrasive waxes and polishes that are made for a basecoat/clearcoat paint finish on the vehicle.

To keep the paint finish looking new, keep the vehicle garaged or covered whenever possible.

Protecting Exterior Bright Metal Moldings

Caution

Failure to clean and protect the bright metal moldings can result in a hazy white finish or pitting. This damage would not be covered by the vehicle warranty.

The bright metal moldings on the vehicle are aluminum, chrome, or stainless steel. To prevent damage always follow these cleaning instructions:

- Be sure the molding is cool to the touch before applying any cleaning solution.
- Use only approved cleaning solutions for aluminum, chrome, or stainless steel. Some cleaners are highly acidic or contain alkaline substances and can damage the moldings.
- Always dilute a concentrated cleaner according to the manufacturer's instructions.
- Do not use cleaners that are not intended for automotive use.
- Use a nonabrasive wax on the vehicle after washing to protect and extend the molding finish.

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DEALER E-PROCESS

Cleaning Exterior Lamps/ Lenses, Emblems, Decals, and Stripes

Use only lukewarm or cold water, a soft cloth, and a car washing soap to clean exterior lamps, lenses, emblems, decals, and stripes. Follow instructions under "Washing the Vehicle" previously in this section.

Lamp covers are made of plastic, and some have a UV protective coating. Do not clean or wipe them when dry.

Do not use any of the following on lamp covers:

- Abrasive or caustic agents.
- Washer fluids and other cleaning agents in higher concentrations than suggested by the manufacturer.
- Solvents, alcohols, fuels, or other harsh cleaners.
- Ice scrapers or other hard items.

- Aftermarket appearance caps or covers while the lamps are illuminated, due to excessive heat generated.

Caution
Failure to clean lamps properly can cause damage to the lamp cover that would not be covered by the vehicle warranty.

Caution
Using wax on low gloss black finish stripes can increase the gloss level and create a non-uniform finish. Clean low gloss stripes with soap and water only.

Air Intakes

Clear debris from the air intakes, between the hood and windshield, when washing the vehicle.

Windshield and Wiper Blades

Clean the outside of the windshield with glass cleaner.

Clean rubber blades using a lint-free cloth or paper towel soaked with windshield washer fluid or a mild detergent. Wash the windshield thoroughly when cleaning the blades. Bugs, road grime, sap, and a buildup of vehicle wash/wax treatments may cause wiper streaking.

Replace the wiper blades if they are worn or damaged. Damage can be caused by extreme dusty conditions, sand, salt, heat, sun, snow, and ice.

Weatherstrips

Apply Dielectric silicone grease on weatherstrips to make them last longer, seal better, and not stick or squeak. Lubricate weatherstrips at least once a year. Hot, dry climates may require more frequent application. Black marks from rubber material on painted surfaces can be removed by rubbing with a clean cloth. See *Recommended Fluids and Lubricants* ⇨ *288*.

Tires

Use a stiff brush with tire cleaner to clean the tires.

Caution
Using petroleum-based tire dressing products on the vehicle may damage the paint finish and/or tires. When applying a tire dressing, always wipe off any overspray from all painted surfaces on the vehicle.

Wheels and Trim — Aluminum or Chrome

Use a soft, clean cloth with mild soap and water to clean the wheels. After rinsing thoroughly with clean water, dry with a soft, clean towel. A wax may then be applied.

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DEALER E-PROCESS

Caution

Chrome wheels and other chrome trim may be damaged if the vehicle is not washed after driving on roads that have been sprayed with magnesium, calcium, or sodium chloride. These chlorides are used on roads for conditions such as ice and dust. Always wash the chrome with soap and water after exposure.

Caution

To avoid surface damage, do not use strong soaps, chemicals, abrasive polishes, cleaners, brushes, or cleaners that contain acid on aluminum or chrome-plated wheels. Use only approved cleaners. Also, never drive a vehicle with aluminum or chrome-plated wheels through an automatic car wash that uses silicone carbide tire cleaning

(Continued)

Caution (Continued)

brushes. Damage could occur and the repairs would not be covered by the vehicle warranty.

Brake System

Visually inspect brake lines and hoses for proper hook-up, binding, leaks, cracks, chafing, etc. Inspect disc brake pads for wear and rotors for surface condition. Inspect drum brake linings/shoes for wear or cracks. Inspect all other brake parts.

Steering, Suspension, and Chassis Components

Visually inspect steering, suspension, and chassis components for damaged, loose, or missing parts or signs of wear at least once a year.

Inspect power steering for proper attachment, connections, binding, leaks, cracks, chafing, etc.

Visually check constant velocity joint boots and axle seals for leaks.

DEALER E-PROCESS

Body Component Lubrication

Lubricate all key lock cylinders, hood hinges, liftgate hinges, and the steel fuel door hinges, unless the components are plastic. Applying silicone grease on weatherstrips with a clean cloth will make them last longer, seal better, and not stick or squeak.

Underbody Maintenance

At least twice a year, spring and fall, use plain water to flush any corrosive materials from the underbody. Take care to thoroughly clean any areas where mud and other debris can collect.

Do not directly power wash the transfer case and/or front/rear axle output seals. High pressure water can overcome the seals and contaminate the fluid. Contaminated fluid will decrease the life of the transfer case and/or axles and should be replaced.

Sheet Metal Damage

If the vehicle is damaged and requires sheet metal repair or replacement, make sure the body repair shop applies anti-corrosion material to parts repaired or replaced to restore corrosion protection.

Original manufacturer replacement parts will provide the corrosion protection while maintaining the vehicle warranty.

Finish Damage

Quickly repair minor chips and scratches with touch-up materials available from your dealer to avoid corrosion. Larger areas of finish damage can be corrected in your dealer's body and paint shop.

Chemical Paint Spotting

Airborne pollutants can fall upon and attack painted vehicle surfaces causing blotchy, ring-shaped discolorations, and small, irregular dark spots etched into the paint surface. See “Finish Care” previously in this section.

Interior Care

To prevent dirt particle abrasions, regularly clean the vehicle's interior. Immediately remove any soils. Newspapers or dark garments can transfer color to the vehicle’s interior.

Use a soft bristle brush to remove dust from knobs and crevices on the instrument cluster. Using a mild soap solution, immediately remove hand lotions, sunscreen, and insect repellent from all interior surfaces or permanent damage may result.

Use cleaners specifically designed for the surfaces being cleaned to prevent permanent damage. Apply all cleaners directly to the cleaning cloth. Do not spray cleaners on any switches or controls. Remove cleaners quickly.

Before using cleaners, read and follow all safety instructions on the label. While cleaning the interior, open the doors and windows to get proper ventilation.

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DEALER E-PROCESS

To prevent damage, do not clean the interior using the following cleaners or techniques:

- Never use a razor or any other sharp object to remove soil from any interior surface.
- Never use a brush with stiff bristles.
- Never rub any surface aggressively or with too much pressure.
- Do not use laundry detergents or dishwashing soaps with degreasers. For liquid cleaners, use approximately 20 drops per 3.8 L (1 gal) of water. A concentrated soap solution will create streaks and attract dirt. Do not use solutions that contain strong or caustic soap.
- Do not heavily saturate the upholstery when cleaning.
- Do not use solvents or cleaners containing solvents.

Interior Glass

To clean, use a terry cloth fabric dampened with water. Wipe droplets left behind with a clean dry cloth. If necessary, use a commercial glass cleaner after cleaning with plain water.

Caution
To prevent scratching, never use abrasive cleaners on automotive glass. Abrasive cleaners or aggressive cleaning may damage the rear window defogger.

Cleaning the windshield with water during the first three to six months of ownership will reduce tendency to fog.

Speaker Covers

Vacuum around a speaker cover gently, so that the speaker will not be damaged. Clean spots with water and mild soap.

Coated Moldings

Coated moldings should be cleaned.

- When lightly soiled, wipe with a sponge or soft, lint-free cloth dampened with water.
- When heavily soiled, use warm soapy water.

Fabric/Carpet/Suede

Start by vacuuming the surface using a soft brush attachment. If a rotating vacuum brush attachment is being used, only use it on the floor carpet. Before cleaning, gently remove as much of the soil as possible:

- Gently blot liquids with a paper towel. Continue blotting until no more soil can be removed.
- For solid soils, remove as much as possible prior to vacuuming.

To clean:

1. Saturate a clean, lint-free colorfast cloth with water. Microfiber cloth is recommended to prevent lint transfer to the fabric or carpet.
2. Remove excess moisture by gently wringing until water does not drip from the cleaning cloth.
3. Start on the outside edge of the soil and gently rub toward the center. Fold the cleaning cloth to a clean area frequently to prevent forcing the soil in to the fabric.
4. Continue gently rubbing the soiled area until there is no longer any color transfer from the soil to the cleaning cloth.
5. If the soil is not completely removed, use a mild soap solution followed only by plain water.

If the soil is not completely removed, it may be necessary to use a commercial upholstery cleaner or spot lifter. Test a small hidden area for colorfastness before using a commercial upholstery cleaner or spot lifter. If ring formation occurs, clean the entire fabric or carpet.

After cleaning, use a paper towel to blot excess moisture.

DEALER E-PROCESS

Cleaning High Gloss Surfaces and Vehicle Information and Radio Displays

Use a microfiber cloth on high gloss surfaces or vehicle displays. First, use a soft bristle brush to remove dirt that can scratch the surface. Then gently clean by rubbing with a microfiber cloth. Never use window cleaners or solvents. Periodically hand wash the microfiber cloth separately, using mild soap. Do not use bleach or fabric softener. Rinse thoroughly and air dry before next use.

Caution

Do not attach a device with a suction cup to the display. This may cause damage and would not be covered by the vehicle warranty.

Instrument Panel, Leather, Vinyl, Other Plastic Surfaces, Low Gloss Paint Surfaces, and Natural Open Pore Wood Surfaces

Use a soft microfiber cloth dampened with water to remove dust and loose dirt. For a more thorough cleaning, use a soft microfiber cloth dampened with a mild soap solution.

Caution

Soaking or saturating leather, especially perforated leather, as well as other interior surfaces, may cause permanent damage. Wipe excess moisture from these surfaces after cleaning and allow them to dry naturally. Never use heat, steam, or spot removers. Do not use cleaners that contain silicone or wax-based products. Cleaners containing these solvents can permanently change

(Continued)

Caution (Continued)

the appearance and feel of leather or soft trim, and are not recommended.

Do not use cleaners that increase gloss, especially on the instrument panel. Reflected glare can decrease visibility through the windshield under certain conditions.

Caution

Use of air fresheners may cause permanent damage to plastics and painted surfaces. If an air freshener comes in contact with any plastic or painted surface in the vehicle, blot immediately and clean with a soft cloth dampened with a mild soap solution. Damage caused by air fresheners would not be covered by the vehicle warranty.

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Cargo Cover and Convenience Net

Wash with warm water and mild detergent. Do not use chlorine bleach. Rinse with cold water, and then dry completely.

Care of Safety Belts

Keep belts clean and dry.

⚠ Warning

Do not bleach or dye safety belt webbing. It may severely weaken the webbing. In a crash, they might not be able to provide adequate protection. Clean and rinse safety belt webbing only with mild soap and lukewarm water. Allow the webbing to dry.

Floor Mats

⚠ Warning

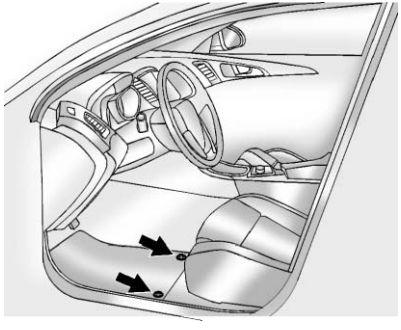
If a floor mat is the wrong size or is not properly installed, it can interfere with the pedals. Interference with the pedals can cause unintended acceleration and/or increased stopping distance which can cause a crash and injury. Make sure the floor mat does not interfere with the pedals.

Use the following guidelines for proper floor mat usage.

- The original equipment floor mats were designed for your vehicle. If the floor mats need replacing, it is recommended that GM certified floor mats be purchased. Non-GM floor mats may not fit properly and may interfere with the accelerator or brake pedal. Always check that the floor mats do not interfere with the pedals.
- Do not use a floor mat if the vehicle is not equipped with a floor mat retainer on the driver side floor.
- Use the floor mat with the correct side up. Do not turn it over.
- Do not place anything on top of the driver side floor mat.
- Use only a single floor mat on the driver side.
- Do not place one floor mat on top of another.

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Removing and Replacing the Floor Mat



The driver side floor mat is held in place by two retainers.

1. Pull up on the rear of the floor mat to unlock each retainer and remove.
2. Reinstall by lining up the floor mat retainer openings over the carpet retainers and snap into position.
3. Make sure the floor mat is properly secured in place. Verify the floor mat does not interfere with the pedals.

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Service and Maintenance

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General Information

Your vehicle is an important investment. This section describes the required maintenance for the vehicle. Follow this schedule to help protect against major repair expenses resulting from neglect or inadequate maintenance. It may also help to maintain the value of the vehicle if it is sold. It is the responsibility of the owner to have all required maintenance performed.

Your dealer has trained technicians who can perform required maintenance using genuine replacement parts. They have up-to-date tools and equipment for fast and accurate diagnostics. Many dealers have extended evening and Saturday hours, courtesy transportation, and online scheduling to assist with service needs.

Your dealer recognizes the importance of providing competitively priced maintenance and repair services. With trained technicians, the dealer is the place for routine maintenance such as oil changes and tire rotations and additional maintenance items like tires, brakes, batteries, and wiper blades.

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Caution

Damage caused by improper maintenance can lead to costly repairs and may not be covered by the vehicle warranty. Maintenance intervals, checks, inspections, recommended fluids, and lubricants are important to keep the vehicle in good working condition.

The Tire Rotation and Required Services are the responsibility of the vehicle owner. It is recommended to have your dealer perform these services every 12 000 km/7,500 mi. Proper vehicle maintenance helps to keep the vehicle in good working condition, improves fuel economy, and reduces vehicle emissions.

Because of the way people use vehicles, maintenance needs vary. There may need to be more

frequent checks and services. The Additional Required Services - Normal are for vehicles that:

- Carry passengers and cargo within recommended limits on the Tire and Loading Information label. See *Vehicle Load Limits* ⇨ *160*.
- Are driven on reasonable road surfaces within legal driving limits.
- Use the recommended fuel. See *Fuel* ⇨ *190*.

Refer to the information in the Maintenance Schedule Additional Required Services - Normal chart.

The Additional Required Services - Severe are for vehicles that are:

- Mainly driven in heavy city traffic in hot weather.
- Mainly driven in hilly or mountainous terrain.
- Frequently towing a trailer.
- Used for high speed or competitive driving.
- Used for taxi, police, or delivery service.

Refer to the information in the Maintenance Schedule Additional Required Services - Severe chart.

⚠ Warning

Performing maintenance work can be dangerous and can cause serious injury. Perform maintenance work only if the required information, proper tools, and equipment are available. If they are not, see your dealer to have a trained technician do the work. See *Doing Your Own Service Work* ⇨ *203*.

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Maintenance Schedule

Owner Checks and Services

At Each Fuel Stop

- Check the engine oil level. See *Engine Oil* ⇨ *208*.

Once a Month

- Check the tire inflation pressures. See *Tire Pressure* ⇨ *242*.
- Inspect the tires for wear. See *Tire Inspection* ⇨ *247*.
- Check the windshield washer fluid level. See *Washer Fluid* ⇨ *220*.

Engine Oil Change

When the CHANGE ENGINE OIL SOON message displays, have the engine oil and filter changed within the next 1 000 km/600 mi. If driven under the best conditions, the engine oil life system may not indicate the need for vehicle service for up to a year. The engine oil and filter must be changed at least once

a year and the oil life system must be reset. Your trained dealer technician can perform this work. If the engine oil life system is reset accidentally, service the vehicle within 5 000 km/3,000 mi since the last service. Reset the oil life system when the oil is changed. See *Engine Oil Life System* ⇨ *211*.

Tire Rotation and Required Services Every 12 000 km/ 7,500 mi

Rotate the tires, if recommended for the vehicle, and perform the following services. See *Tire Rotation* ⇨ *247*.

- Check engine oil level and oil life percentage. If needed, change engine oil and filter, and reset oil life system. See *Engine Oil* ⇨ *208* and *Engine Oil Life System* ⇨ *211*.
- Check engine coolant level. See *Engine Coolant* ⇨ *214*.
- Check windshield washer fluid level. See *Washer Fluid* ⇨ *220*.
- Visually inspect windshield wiper blades for wear, cracking, or contamination. See *Exterior Care* ⇨ *268*. Replace worn or damaged wiper blades. See *Wiper Blade Replacement* ⇨ *224*.
- Check tire inflation pressures. See *Tire Pressure* ⇨ *242*.
- Inspect tire wear. See *Tire Inspection* ⇨ *247*.
- Visually check for fluid leaks.
- Inspect engine air cleaner filter. See *Engine Air Cleaner/ Filter* ⇨ *212*.
- Inspect brake system. See *Exterior Care* ⇨ *268*.
- Visually inspect steering, suspension, and chassis components for damaged, loose, or missing parts or signs of wear. See *Exterior Care* ⇨ *268*.
- Check restraint system components. See *Safety System Check* ⇨ *60*.
- Visually inspect fuel system for damage or leaks.
- Visually inspect exhaust system and nearby heat shields for loose or damaged parts.
- Lubricate body components. See *Exterior Care* ⇨ *268*.
- Check starter switch. See *Starter Switch Check* ⇨ *223*.
- Check automatic transmission shift lock control function. See *Automatic Transmission Shift Lock Control Function Check* ⇨ *223*.

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- Check ignition transmission lock. See *Ignition Transmission Lock Check* ⇨ *224*.
- Check parking brake and automatic transmission park mechanism. See *Park Brake and P (Park) Mechanism Check* ⇨ *224*.
- Check accelerator pedal for damage, high effort, or binding. Replace if needed.
- Visually inspect gas strut for signs of wear, cracks, or other damage. Check the hold open ability of the strut. See your dealer if service is required.
- Inspect sunroof track and seal, if equipped. See *Sunroof* ⇨ *43*.

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Maintenance Schedule Additional Required Services - Normal	12 000 km/7,500 mi	24 000 km/15,000 mi	36 000 km/22,500 mi	48 000 km/30,000 mi	60 000 km/37,500 mi	72 000 km/45,000 mi	84 000 km/52,500 mi	96 000 km/60,000 mi	108 000 km/67,500 mi	120 000 km/75,000 mi	132 000 km/82,500 mi	144 000 km/90,000 mi	156 000 km/97,500 mi	168 000 km/105,000 mi	180 000 km/112,500 mi	192 000 km/120,000 mi	204 000 km/127,500 mi	216 000 km/135,000 mi	228 000 km/142,500 mi	240 000 km/150,000 mi
Rotate tires and perform Required Services. Check engine oil level and oil life percentage. Change engine oil and filter, if needed.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Replace passenger compartment air filter. (1)			✓			✓			✓			✓			✓			✓		
Inspect evaporative control system. (2)						✓						✓						✓		
Replace engine air cleaner filter. (3)						✓						✓						✓		
Replace spark plugs. Inspect spark plug wires.													✓							
Change transfer case fluid, if equipped with AWD. (4)													✓							
Drain and fill engine cooling system. (5)																				✓
Visually inspect accessory drive belts. (6)																				✓
Replace brake fluid. (7)																				

Footnotes — Maintenance Schedule Additional Required Services - Normal

(1) Or every two years, whichever comes first. More frequent passenger compartment air filter replacement may be needed if driving in areas with heavy traffic, poor air quality, high dust levels, or environmental allergens. Passenger compartment air filter replacement may also be needed if there is reduced airflow, window fogging, or odors. Your GM dealer can help determine when to replace the filter.

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(2) Visually check all fuel and vapor lines and hoses for proper attachment, connection, routing, and condition.

(3) Or every four years, whichever comes first. If driving in dusty conditions, inspect the filter at each oil change or more often as needed.

(4) Do not directly power wash the transfer case and/or front/rear axle output seals. High pressure water can overcome the seals and contaminate the fluid. Contaminated fluid will decrease the life of the transfer case and/or drive axles and should be replaced.

(5) Or every five years, whichever comes first. See *Cooling System* ⇨ *213*.

(6) Or every 10 years, whichever comes first. Inspect for fraying, excessive cracking, or damage; replace, if needed.

(7) Replace brake fluid every five years. See *Brake Fluid* ⇨ *221*.

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Maintenance Schedule Additional Required Services - Severe	12 000 km/7,500 mi	24 000 km/15,000 mi	36 000 km/22,500 mi	48 000 km/30,000 mi	60 000 km/37,500 mi	72 000 km/45,000 mi	84 000 km/52,500 mi	96 000 km/60,000 mi	108 000 km/67,500 mi	120 000 km/75,000 mi	132 000 km/82,500 mi	144 000 km/90,000 mi	156 000 km/97,500 mi	168 000 km/105,000 mi	180 000 km/112,500 mi	192 000 km/120,000 mi	204 000 km/127,500 mi	216 000 km/135,000 mi	228 000 km/142,500 mi	240 000 km/150,000 mi
Rotate tires and perform Required Services. Check engine oil level and oil life percentage. Change engine oil and filter, if needed.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Replace passenger compartment air filter. (1)			✓			✓			✓			✓			✓			✓		
Inspect evaporative control system. (2)						✓						✓						✓		
Replace engine air cleaner filter. (3)						✓						✓						✓		
Change automatic transmission fluid.						✓						✓						✓		
Change transfer case fluid, if equipped with AWD. (4)						✓						✓						✓		
Replace spark plugs. Inspect spark plug wires.													✓							
Drain and fill engine cooling system. (5)																				✓
Visually inspect accessory drive belts. (6)																				✓
Replace brake fluid. (7)																				

Footnotes — Maintenance Schedule Additional Required Services - Severe

(1) Or every two years, whichever comes first. More frequent passenger compartment air filter replacement may be needed if driving in areas with heavy traffic, poor air quality, high dust levels, or environmental allergens. Passenger compartment air filter replacement may also be needed if there is reduced airflow, window fogging, or odors. Your GM dealer can help determine when to replace the filter.

(2) Visually check all fuel and vapor lines and hoses for proper attachment, connection, routing, and condition.

(3) Or every four years, whichever comes first. If driving in dusty conditions, inspect the filter at each oil change or more often as needed.

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(4) Do not directly power wash the transfer case and/or front/rear axle output seals. High pressure water can overcome the seals and contaminate the fluid. Contaminated fluid will decrease the life of the transfer case and/or drive axles and should be replaced.

(5) Or every five years, whichever comes first. See *Cooling System* ⇨ *213*.

(6) Or every 10 years, whichever comes first. Inspect for fraying, excessive cracking, or damage; replace, if needed.

(7) Replace brake fluid every five years. See *Brake Fluid* ⇨ *221*.

Special Application Services

- Severe Commercial Use Vehicles Only: Lubricate chassis components every oil change.
- Have underbody flushing service performed. See "Underbody Maintenance" in *Exterior Care* ⇨ *268*.

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Additional Maintenance and Care

Your vehicle is an important investment and caring for it properly may help to avoid future costly repairs. To maintain vehicle performance, additional maintenance services may be required.

It is recommended that your dealer perform these services — their trained dealer technicians know your vehicle best. Your dealer can also perform a thorough assessment with a multi-point inspection to recommend when your vehicle may need attention.

The following list is intended to explain the services and conditions to look for that may indicate services are required.

Battery

The 12-volt battery supplies power to start the engine and operate any additional electrical accessories.

- To avoid break-down or failure to start the vehicle, maintain a battery with full cranking power.
- Trained dealer technicians have the diagnostic equipment to test the battery and ensure that the connections and cables are corrosion-free.

Belts

- Belts may need replacing if they squeak or show signs of cracking or splitting.
- Trained dealer technicians have access to tools and equipment to inspect the belts and recommend adjustment or replacement when necessary.

Brakes

Brakes stop the vehicle and are crucial to safe driving.

- Signs of brake wear may include chirping, grinding, or squealing noises, or difficulty stopping.
- Trained dealer technicians have access to tools and equipment to inspect the brakes and recommend quality parts engineered for the vehicle.

Fluids

Proper fluid levels and approved fluids protect the vehicle's systems and components. See *Recommended Fluids and Lubricants* ⇨ *288* for GM approved fluids.

- Engine oil and windshield washer fluid levels should be checked at every fuel fill.
- Instrument cluster lights may come on to indicate that fluids may be low and need to be filled.

Hoses

Hoses transport fluids and should be regularly inspected to ensure that there are no cracks or leaks. With a multi-point inspection, your dealer can inspect the hoses and advise if replacement is needed.

Lamps

Properly working headlamps, taillamps, and brake lamps are important to see and be seen on the road.

- Signs that the headlamps need attention include dimming, failure to light, cracking, or damage. The brake lamps need to be checked periodically to ensure that they light when braking.
- With a multi-point inspection, your dealer can check the lamps and note any concerns.

Shocks and Struts

Shocks and struts help aid in control for a smoother ride.

- Signs of wear may include steering wheel vibration, bounce/sway while braking, longer stopping distance, or uneven tire wear.
- As part of the multi-point inspection, trained dealer technicians can visually inspect the shocks and struts for signs

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of leaking, blown seals, or damage, and can advise when service is needed.

Tires

Tires need to be properly inflated, rotated, and balanced. Maintaining the tires can save money and fuel, and can reduce the risk of tire failure.

- Signs that the tires need to be replaced include three or more visible treadwear indicators; cord or fabric showing through the rubber; cracks or cuts in the tread or sidewall; or a bulge or split in the tire.
- Trained dealer technicians can inspect and recommend the right tires. Your dealer can also provide tire/wheel balancing services to ensure smooth vehicle operation at all speeds. Your dealer sells and services name brand tires.

Vehicle Care

To help keep the vehicle looking like new, vehicle care products are available from your dealer. For information on how to clean and protect the vehicle's interior and exterior, see *Interior Care* ⇨ *273* and *Exterior Care* ⇨ *268*.

Wheel Alignment

Wheel alignment is critical for ensuring that the tires deliver optimal wear and performance.

- Signs that the alignment may need to be adjusted include pulling, improper vehicle handling, or unusual tire wear.
- Your dealer has the required equipment to ensure proper wheel alignment.

Windshield

For safety, appearance, and the best viewing, keep the windshield clean and clear.

- Signs of damage include scratches, cracks, and chips.
- Trained dealer technicians can inspect the windshield and recommend proper replacement if needed.

Wiper Blades

Wiper blades need to be cleaned and kept in good condition to provide a clear view.

- Signs of wear include streaking, skipping across the windshield, and worn or split rubber.
- Trained dealer technicians can check the wiper blades and replace them when needed.

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Recommended Fluids, Lubricants, and Parts

Recommended Fluids and Lubricants

Usage	Fluid/Lubricant
Engine Oil	Engine oil meeting the dexos1™ specification of the proper SAE viscosity grade. ACDelco dexos1 Synthetic Blend is recommended. See *Engine Oil ⇨ 208*.
Engine Coolant	50/50 mixture of clean, drinkable water and use only DEX-COOL® Coolant. See *Engine Coolant ⇨ 214*.
Hydraulic Brake System	DOT 3 Hydraulic Brake Fluid (GM Part No. 19299818, in Canada 19299819).
Windshield Washer	Automotive windshield washer fluid that meets regional freeze protection requirements.
Hydraulic Power Steering System (V6 engines only)	DEXRON®-VI Automatic Transmission Fluid.
Automatic Transmission	DEXRON®-VI Automatic Transmission Fluid.
Transfer Case (All-Wheel Drive)	Transfer Case Fluid (GM Part No. 88900401, in Canada 89021678).
Power Liftgate Actuator Ball Joint, Hood Latch Assembly, Secondary Latch, Pivots, Spring Anchor, and Release Pawl	Lubriplate Lubricant Aerosol (GM Part No. 89021668, in Canada 89021674) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB.
Key Lock Cylinders, Hood and Door Hinges	Multi-Purpose Lubricant, Superlube (GM Part No. 12346241, in Canada 10953474).

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Usage	Fluid/Lubricant
Weatherstrip Conditioning	Weatherstrip Lubricant (GM Part No. 3634770, in Canada 10953518) or Dielectric Silicone Grease (GM Part No. 12345579, in Canada 10953481).

Maintenance Replacement Parts

Replacement parts identified below by name, part number, or specification can be obtained from your dealer.

Part	GM Part Number	ACDelco Part Number
Engine Air Cleaner/Filter	23335811	A3238C
Engine Oil Filter		
2.4L L4 Engine	12605566	PF457G
3.6L V6 Engine	19330000	PF63E
Passenger Compartment Air Filter	20901295	CF177
Spark Plugs		
2.4L L4 Engine	12620540	41-108
3.6L V6 Engine	12622561	41-109
Wiper Blades		
Driver Side – 60 cm (23.6 in)	22868413	—
Passenger Side – 42.5 cm (16.7 in)	22868414	—
Rear – 32.5 cm (12.8 in)	20999459	—

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Maintenance Records

After the scheduled services are performed, record the date, odometer reading, who performed the service, and the type of services performed in the boxes provided. Retain all maintenance receipts.

Date	Odometer Reading	Serviced By	Services Performed

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Technical Data

Vehicle Identification
Vehicle Identification Number (VIN) 291
Service Parts Identification Label 291

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Vehicle Identification

Vehicle Identification Number (VIN)



This legal identifier is in the front corner of the instrument panel, on the left side of the vehicle. It can be seen through the windshield from outside. The Vehicle Identification Number (VIN) also appears on the Vehicle Certification and Service Parts labels and certificates of title and registration.

Engine Identification

The eighth character in the VIN is the engine code. This code identifies the vehicle's engine, specifications, and replacement parts. See “Engine Specifications” under *Capacities and Specifications* ⇨ 292 for the vehicle's engine code.

Service Parts Identification Label

This label, on the inside of the glove box, has the following information:

- Vehicle Identification Number (VIN).
- Model designation.
- Paint information.
- Production options and special equipment.

Do not remove this label from the vehicle.

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Vehicle Data

Capacities and Specifications

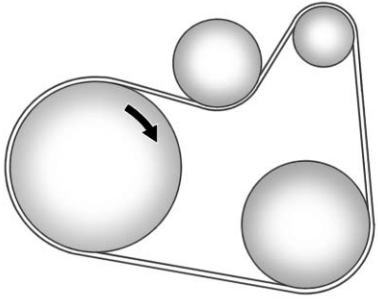
Application	Capacities	
	Metric	English
Air Conditioning Refrigerant	For the air conditioning system refrigerant type and charge amount, see the refrigerant label under the hood. See your dealer for more information.	
Engine Cooling System		
2.4L L4 Engine	7.8 L	8.2 qt
3.6L V6 Engine	10.2 L	10.8 qt
Engine Oil with Filter		
2.4L L4 Engine	4.7 L	5.0 qt
3.6L V6 Engine	5.7 L	6.0 qt
Fuel Tank		
2.4L L4 Engine	71.1 L	18.8 gal
3.6L V6 Engine	79.1 L	20.9 gal
Transfer Case Fluid	0.8 L	0.85 qt
Wheel Nut Torque	190 N•m	140 lb ft
All capacities are approximate. When adding, be sure to fill to the approximate level, as recommended in this manual. Recheck fluid level after filling.		

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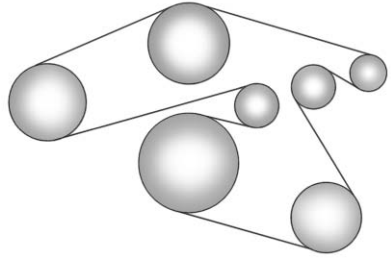
Engine Specifications

Engine	VIN Code	Transmission	Spark Plug Gap
2.4L L4	K	Automatic	0.75–0.90 mm (0.030–0.035 in)
3.6L V6	3	Automatic	0.95–1.10 mm (0.037–0.043 in)

Engine Drive Belt Routing



2.4L L4 Engine



3.6L V6 Engine

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Customer Information

Customer Satisfaction Procedure

Your satisfaction and goodwill are important to your dealer and to GMC. Normally, any concerns with the sales transaction or the operation of the vehicle will be resolved by your dealer's sales or service departments. Sometimes, however, despite the best intentions of all concerned, misunderstandings can occur. If your concern has not been resolved to your satisfaction, the following steps should be taken:

STEP ONE : Discuss your concern with a member of dealership management. Normally, concerns can be quickly resolved at that level. If the matter has already been reviewed with the sales, service, or parts manager, contact the owner of your dealership or the general manager.

STEP TWO : If after contacting a member of dealership management, it appears your concern cannot be

resolved by your dealership without further help, in the U.S., call 1-800-462-8782. In Canada, call General Motors of Canada Customer Care Centre at 1-800-263-3777 (English), or 1-800-263-7854 (French).

We encourage you to call the toll-free number in order to give your inquiry prompt attention. Have the following information available to give the Customer Assistance representative:

- Vehicle Identification Number (VIN). This is available from the vehicle registration or title, or the plate at the top left of the instrument panel and visible through the windshield.
- Dealership name and location.
- Vehicle delivery date and present mileage.

When contacting GMC, remember that your concern will likely be resolved at a dealer's facility. That is why we suggest following Step One first.

STEP THREE — U.S. Owners : Both General Motors and your dealer are committed to making sure you are completely satisfied with your new vehicle. However, if you continue to remain unsatisfied after following the procedure outlined in Steps One and Two, you can file with the Better Business Bureau (BBB) Auto Line® Program to enforce your rights.

The BBB Auto Line Program is an out-of-court program administered by the Council of Better Business Bureaus to settle automotive disputes regarding vehicle repairs or the interpretation of the New Vehicle Limited Warranty. Although you may be required to resort to this informal dispute resolution program prior to filing a court action, use of the program is free of charge and your case will generally be heard within 40 days. If you do not agree with the decision given in your case, you may reject it and proceed with any other venue for relief available to you.

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You may contact the BBB Auto Line Program using the toll-free telephone number or write them at the following address:

BBB Auto Line Program
Council of Better Business Bureaus, Inc.
3033 Wilson Blvd.
Suite 600
Arlington, VA 22203-1838

Telephone: 1-800-955-5100
http://www.bbb.org/council/programs-services/dispute-handling-and-resolution/bbb-auto-line

This program is available in all 50 states and the District of Columbia. Eligibility is limited by vehicle age, mileage, and other factors. General Motors reserves the right to change eligibility limitations and/or discontinue its participation in this program.

STEP THREE — Canadian Owners : In the event that you do not feel your concerns have been addressed after following the procedure outlined in Steps One and Two, General Motors of Canada

Company wants you to be aware of its participation in a no-charge Mediation/Arbitration Program. General Motors of Canada Company has committed to binding arbitration of owner disputes involving factory-related vehicle service claims. The program provides for the review of the facts involved by an impartial third party arbiter, and may include an informal hearing before the arbiter. The program is designed so that the entire dispute settlement process, from the time you file your complaint to the final decision, should be completed in about 70 days. We believe our impartial program offers advantages over courts in most jurisdictions because it is informal, quick, and free of charge.

For further information concerning eligibility in the Canadian Motor Vehicle Arbitration Plan (CAMVAP), call toll-free 1-800-207-0685, or call the General Motors Customer Care Centre, 1-800-263-3777 (English), 1-800-263-7854 (French), or write to:

Mediation/Arbitration Program
c/o Customer Care Centre
General Motors of Canada Company
Mail Code: CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

Your inquiry should be accompanied by the Vehicle Identification Number (VIN).

Customer Assistance Offices

GMC encourages customers to call the toll-free number for assistance. However, if a customer wishes to write or e-mail GMC, the letter should be addressed to:

United States and Puerto Rico

GMC Customer Assistance Center
P.O. Box 33172
Detroit, MI 48232-5172

www.GMC.com

1-800-GMC-8782 (1-800-462-8782)
1-888-889-2438 (For Text Telephone devices (TTYs))
Roadside Assistance:
1-888-881-3302

From U.S. Virgin Islands:

1-800-496-9994

Canada

General Motors of Canada Company
Customer Care Centre, Mail Code: CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7
www.gmc.ca

1-800-263-3777 (English)
1-800-263-7854 (French)
1-800-263-3830 (For Text Telephone Devices (TTYs))
Roadside Assistance:
1-800-268-6800

Overseas

Please contact the local General Motors Business Unit.

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Customer Assistance for Text Telephone (TTY) Users

To assist customers who are deaf, hard of hearing, or speech-impaired and who use Text Telephones (TTYs), GMC has TTY equipment available at its Customer Assistance Center. Any TTY user in the U.S. can communicate with GMC by dialing: 1-888-889-2438. TTY users in Canada can dial 1-800-263-3830.

Online Owner Center

Online Owner Experience (U.S.) my.gmc.com

The GMC online owner experience is a one-stop resource that allows interaction with GMC and keeps important vehicle-specific information in one place.

Membership Benefits

: Download owner manuals and view vehicle-specific how-to videos.

: View maintenance schedules, alerts, and OnStar onboard vehicle diagnostic information. Schedule service appointments.

: View and print dealer-recorded service records and self-recorded service records.

: Select a dealer and view locations, maps, phone numbers, and hours.

: Track your vehicle's warranty information.

: View active recalls by Vehicle Identification Number (VIN). See *Vehicle Identification Number (VIN)* ⇨ *291*.

: View GM Card, SiriusXM Satellite radio (if equipped), and OnStar account information (if equipped).

: Chat live with online help representatives.

Visit my.gmc.com to register your vehicle.

GMC Owner Centre (Canada) gmcowner.ca

Take a trip to the GMC Owner Centre:

- Chat live with online help representatives.
- Use the Vehicle Tools section.
- Access third party enthusiast sites and social media networks.
- Locate owner resources such as lease-end, financing, and warranty information.
- Retrieve your favorite articles, quizzes, tips, and multimedia galleries organized into the Features and Auto Care Sections.
- Download the owner manual for your vehicle, quickly and easily.
- Find the GMC-recommended maintenance services for your vehicle.

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GM Mobility Reimbursement Program

This program is available to qualified applicants for cost reimbursement of eligible aftermarket adaptive equipment required for the vehicle, such as hand controls or a wheelchair/scooter lift for the vehicle.

For more information on the limited offer, visit www.gmmobility.com or call the GM Mobility Assistance Center at 1-800-323-9935. Text Telephone (TTY) users, call 1-800-833-9935.

General Motors of Canada also has a Mobility Program. Visit www.gm.ca or call 1-800-GM-DRIVE (463-7483) for details. TTY users call 1-800-263-3830.

Roadside Assistance Program

For U.S.-purchased vehicles, call 1-888-881-3302; (Text Telephone (TTY): 1-888-889-2438).

For Canadian-purchased vehicles, call 1-800-268-6800.

Service is available 24 hours a day, 365 days a year.

Calling for Assistance

When calling Roadside Assistance, have the following information ready:

- Your name, home address, and home telephone number.
- Telephone number of your location.
- Location of the vehicle
- Model, year, color, and license plate number of the vehicle.
- Odometer reading, Vehicle Identification Number (VIN), and delivery date of the vehicle.
- Description of the problem.

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Coverage

Services are provided for the duration of the vehicle's powertrain warranty.

In the U.S., anyone driving the vehicle is covered. In Canada, a person driving the vehicle without permission from the owner is not covered.

Roadside Assistance is not a part of the New Vehicle Limited Warranty. General Motors North America and GMC reserve the right to make any changes or discontinue the Roadside Assistance program at any time without notification.

General Motors North America and GMC reserve the right to limit services or payment to an owner or driver if they decide the claims are made too often, or the same type of claim is made many times.

Services Provided

- **Emergency Fuel Delivery:** Delivery of enough fuel for the vehicle to get to the nearest service station.

- **Lock-Out Service:** Service to unlock the vehicle if you are locked out. A remote unlock may be available if you have OnStar®. For security reasons, the driver must present identification before this service is given.
- **Emergency Tow from a Public Road or Highway:** Tow to the nearest GMC dealer for warranty service, or if the vehicle was in a crash and cannot be driven. Assistance is not given when the vehicle is stuck in the sand, mud, or snow.
- **Flat Tire Change:** Service to change a flat tire with the spare tire. The spare tire, if equipped, must be in good condition and properly inflated. It is the owner's responsibility for the repair or replacement of the tire if it is not covered by the warranty.
- **Battery Jump Start:** Service to jump start a dead battery.
- **Trip Interruption Benefits and Assistance:** If your trip is interrupted due to a warranty event, incidental expenses may be reimbursed within the Powertrain warranty period. Items considered are reasonable and customary hotel, meals, rental car, or a vehicle being delivered back to the customer, up to 805 km (500 mi).

Services Not Included in Roadside Assistance

- Impound towing caused by violation of any laws.
- Legal fines.
- Mounting, dismounting, or changing of snow tires, chains, or other traction devices.

Service is not provided if a vehicle is in an area that is not accessible to the service vehicle or is not a regularly traveled or maintained public road, which includes ice and winter roads. Off-road use is not covered.

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Services Specific to Canadian-Purchased Vehicles

- **Fuel Delivery:** Reimbursement is up to 7 liters. Diesel fuel delivery may be restricted. Propane and other fuels are not provided through this service.
- **Lock-Out Service:** Vehicle registration is required.
- **Trip Interruption Benefits and Assistance:** Must be over 150 kilometers from where your trip was started to qualify. Pre-authorization, original detailed receipts, and a copy of the repair orders are required. Once authorization has been received, the Roadside Assistance advisor will help to make arrangements and explain how to receive payment.
- **Alternative Service:** If assistance cannot be provided right away, the Roadside Assistance advisor may give permission to get local emergency road service. You will receive payment, up to $100, after sending the original receipt

to Roadside Assistance. Mechanical failures may be covered, however any cost for parts and labor for repairs not covered by the warranty are the owner responsibility.

Scheduling Service Appointments

When the vehicle requires warranty service, contact your dealer and request an appointment. By scheduling a service appointment and advising the service consultant of your transportation needs, your dealer can help minimize your inconvenience.

If the vehicle cannot be scheduled into the service department immediately, keep driving it until it can be scheduled for service, unless, of course, the problem is safety related. If it is, please call your dealership, let them know this, and ask for instructions.

If your dealer requests you to bring the vehicle for service, you are urged to do so as early in the work day as possible to allow for same-day repair.

Courtesy Transportation Program

To enhance your ownership experience, we and our participating dealers are proud to offer Courtesy Transportation, a customer support program for vehicles with the Bumper-to-Bumper (Base Warranty Coverage period in Canada), extended powertrain, and/or hybrid-specific warranties in both the U.S. and Canada.

Several Courtesy Transportation options are available to assist in reducing inconvenience when warranty repairs are required.

Courtesy Transportation is not a part of the New Vehicle Limited Warranty. A separate booklet entitled “Limited Warranty and Owner Assistance Information” furnished with each new vehicle provides detailed warranty coverage information.

Transportation Options

Warranty service can generally be completed while you wait. However, if you are unable to do so, your dealer may offer the following transportation options:

Shuttle Service

This includes one-way or round-trip shuttle service within reasonable time and distance parameters of your dealer's area.

Public Transportation or Fuel Reimbursement

If overnight warranty repairs are needed, and public transportation is used, the expense must be supported by original receipts and within the maximum amount allowed by GM for shuttle service. If U.S. customers arrange their own transportation, limited reimbursement for reasonable fuel expenses may be available. Claim amounts should reflect actual costs

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and be supported by original receipts. See your dealer for information.

Courtesy Rental Vehicle

For an overnight warranty repair, the dealer may provide an available courtesy rental vehicle or provide for reimbursement of a rental vehicle. Reimbursement is limited and must be supported by original receipts as well as a signed and completed rental agreement and meet state/provincial, local, and rental vehicle provider requirements. Requirements vary and may include minimum age requirements, insurance coverage, credit card, etc. Additional fees such as fuel usage charges, taxes, levies, usage fees, excessive mileage, or rental usage beyond the completion of the repair are also your responsibility.

It may not be possible to provide a like vehicle as a courtesy rental.

Additional Program Information

All program options, such as shuttle service, may not be available at every dealer. Contact your dealer for specific availability.

General Motors reserves the right to unilaterally modify, change, or discontinue Courtesy Transportation at any time and to resolve all questions of claim eligibility pursuant to the terms and conditions described herein at its sole discretion.

Collision Damage Repair

If the vehicle is involved in a collision and it is damaged, have the damage repaired by a qualified technician using the proper equipment and quality replacement parts. Poorly performed collision repairs diminish the vehicle resale value, and safety performance can be compromised in subsequent collisions.

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Collision Parts

Genuine GM Collision parts are new parts made with the same materials and construction methods as the parts with which the vehicle was originally built. Genuine GM Collision parts are the best choice to ensure that the vehicle's designed appearance, durability, and safety are preserved. The use of Genuine GM parts can help maintain the GM New Vehicle Limited Warranty.

Recycled original equipment parts may also be used for repair. These parts are typically removed from vehicles that were total losses in prior crashes. In most cases, the parts being recycled are from undamaged sections of the vehicle. A recycled original equipment GM part may be an acceptable choice to maintain the vehicle's originally designed appearance and safety performance; however, the history of these parts is not known. Such parts are not covered by the GM New Vehicle Limited Warranty, and any related failures are not covered by that warranty.

Aftermarket collision parts are also available. These are made by companies other than GM and may not have been tested for the vehicle. As a result, these parts may fit poorly, exhibit premature durability/ corrosion problems, and may not perform properly in subsequent collisions. Aftermarket parts are not covered by the GM New Vehicle Limited Warranty, and any vehicle failure related to such parts is not covered by that warranty.

Repair Facility

GM also recommends that you choose a collision repair facility that meets your needs before you ever need collision repairs. Your dealer may have a collision repair center with GM-trained technicians and state-of-the-art equipment, or be able to recommend a collision repair center that has GM-trained technicians and comparable equipment.

Insuring the Vehicle

Protect your investment in the GM vehicle with comprehensive and collision insurance coverage. There are significant differences in the quality of coverage afforded by various insurance policy terms. Many insurance policies provide reduced protection to the GM vehicle by limiting compensation for damage repairs through the use of aftermarket collision parts. Some insurance companies will not specify aftermarket collision parts. When purchasing insurance, we recommend that you ensure that the vehicle will be repaired with GM original equipment collision parts. If such insurance coverage is not available from your current insurance carrier, consider switching to another insurance carrier.

If the vehicle is leased, the leasing company may require you to have insurance that ensures repairs with Genuine GM Original Equipment Manufacturer (OEM) parts or Genuine Manufacturer replacement parts. Read the lease carefully, as you may be charged at the end of the lease for poor quality repairs.

If a Crash Occurs

If there has been an injury, call emergency services for help. Do not leave the scene of a crash until all matters have been taken care of. Move the vehicle only if its position puts you in danger, or you are instructed to move it by a police officer.

Give only the necessary information to police and other parties involved in the crash.

For emergency towing see *Roadside Assistance Program* ⇨ *298*.

Gather the following information:

- Driver name, address, and telephone number.
- Driver license number.
- Owner name, address, and telephone number.
- Vehicle license plate number.

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- Vehicle make, model, and model year.
- Vehicle Identification Number (VIN).
- Insurance company and policy number.
- General description of the damage to the other vehicle.

Choose a reputable repair facility that uses quality replacement parts. See “Collision Parts” earlier in this section.

If the airbag has inflated, see *What Will You See after an Airbag Inflates?* ⇨ *66*.

Managing the Vehicle Damage Repair Process

In the event that the vehicle requires damage repairs, GM recommends that you take an active role in its repair. If you have a pre-determined repair facility of choice, take the vehicle there, or have it towed there. Specify to the facility that any required replacement collision parts be original equipment parts, either new Genuine GM parts or recycled original GM parts. Remember, recycled parts will not be covered by the GM vehicle warranty.

Insurance pays the bill for the repair, but you must live with the repair. Depending on your policy limits, your insurance company may initially value the repair using aftermarket parts. Discuss this with the repair professional, and insist on Genuine GM parts. Remember, if the vehicle is leased, you may be obligated to have the vehicle repaired with Genuine GM parts, even if your insurance coverage does not pay the full cost.

If another party's insurance company is paying for the repairs, you are not obligated to accept a repair valuation based on that insurance company's collision policy repair limits, as you have no contractual limits with that company. In such cases, you can have control of the repair and parts choices as long as the cost stays within reasonable limits.

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Service Publications Ordering Information

Service Manuals

Service Manuals have the diagnosis and repair information on the engines, transmission, axle, suspension, brakes, electrical, steering, body, etc.

Service Bulletins

Service Bulletins give additional technical service information needed to knowledgeably service General Motors cars and trucks. Each bulletin contains instructions to assist in the diagnosis and service of the vehicle.

Owner Information

Owner publications are written specifically for owners and intended to provide basic operational information about the vehicle. The Owner Manual includes the Maintenance Schedule for all models.

In-Portfolio: Includes a Portfolio, Owner Manual, and Warranty Manual.

RETAIL SELL PRICE: $35.00 – $40.00 (U.S.) plus handling and shipping fees.

Without Pouch: Owner Manual only.

RETAIL SELL PRICE: $25.00 (U.S.) plus handling and shipping fees.

Current and Past Models

Technical Service Bulletins and Manuals are available for current and past model GM vehicles.

ORDER TOLL FREE:
1-800-551-4123 Monday – Friday 8:00 AM – 6:00 PM Eastern Time

For Credit Card Orders Only (VISA-MasterCard-Discover), see Helm, Inc. at: www.helminc.com.

Or write to:

Helm, Incorporated
Attention: Customer Service
47911 Halyard Drive
Plymouth, MI 48170

Prices are subject to change without notice and without incurring obligation. Allow ample time for delivery.

All listed prices are quoted in U.S. funds. Make checks payable in U.S. funds.

Radio Frequency Statement

This vehicle has systems that operate on a radio frequency that complies with Part 15/Part 18 of the Federal Communications Commission (FCC) rules and with Industry Canada Standards RSS-GEN/210/216/220/251/310, ICES-001.

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Operation is subject to the following two conditions:

1. The device may not cause harmful interference.
2. The device must accept any interference received, including interference that may cause undesired operation of the device.

Changes or modifications to any of these systems by other than an authorized service facility could void authorization to use this equipment.

Reporting Safety Defects

Reporting Safety Defects to the United States Government

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying General Motors.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or General Motors.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to *http://www.safercar.gov;* or write to:

Administrator, NHTSA
1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

You can also obtain other information about motor vehicle safety from *http://www.safercar.gov*.

Reporting Safety Defects to the Canadian Government

If you live in Canada, and you believe that the vehicle has a safety defect, notify Transport Canada immediately, and notify General Motors of Canada Company. Call Transport Canada at 1-800-333-0510 or write to:

Transport Canada
Road Safety Branch
80 rue Noel
Gatineau, QC J8Z 0A1

Reporting Safety Defects to General Motors

In addition to notifying NHTSA (or Transport Canada) in a situation like this, notify General Motors.

Call 1-800-GMC-8782 (1-800-462-8782), or write:

GMC Customer Assistance Center
P.O. Box 33172
Detroit, MI 48232-5172

In Canada, call 1-800-263-3777 (English) or 1-800-263-7854 (French), or write:

General Motors of Canada Company
Customer Care Centre, Mail Code: CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

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Vehicle Data Recording and Privacy

The vehicle has a number of computers that record information about the vehicle's performance and how it is driven. For example, the vehicle uses computer modules to monitor and control engine and transmission performance, to monitor the conditions for airbag deployment and deploy them in a crash, and, if equipped, to provide antilock braking to help the driver control the vehicle. These modules may store data to help the dealer technician service the vehicle. Some modules may also store data about how the vehicle is operated, such as rate of fuel consumption or average speed. These modules may retain personal preferences, such as radio presets, seat positions, and temperature settings.

Event Data Recorders

This vehicle is equipped with an event data recorder (EDR). The main purpose of an EDR is to record, in certain crash or near crash-like situations, such as an air bag deployment or hitting a road obstacle, data that will assist in understanding how a vehicle's systems performed. The EDR is designed to record data related to vehicle dynamics and safety systems for a short period of time, typically 30 seconds or less. The EDR in this vehicle is designed to record such data as:

- How various systems in your vehicle were operating;
- Whether or not the driver and passenger safety belts were buckled/fastened;
- How far (if at all) the driver was depressing the accelerator and/or brake pedal; and,
- How fast the vehicle was traveling.

These data can help provide a better understanding of the circumstances in which crashes and injuries occur.

Note

EDR data are recorded by your vehicle only if a non-trivial crash situation occurs; no data are recorded by the EDR under normal driving conditions and no personal data (e.g., name, gender, age, and crash location) are recorded. However, other parties, such as law enforcement, could combine the EDR data with the type of personally identifying data routinely acquired during a crash investigation.

To read data recorded by an EDR, special equipment is required, and access to the vehicle or the EDR is needed. In addition to the vehicle manufacturer, other parties, such as law enforcement, that have the special equipment, can read the information if they have access to the vehicle or the EDR.

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GM will not access these data or share it with others except: with the consent of the vehicle owner or, if the vehicle is leased, with the consent of the lessee; in response to an official request by police or similar government office; as part of GM's defense of litigation through the discovery process; or, as required by law. Data that GM collects or receives may also be used for GM research needs or may be made available to others for research purposes, where a need is shown and the data is not tied to a specific vehicle or vehicle owner.

OnStar®

If the vehicle is equipped with OnStar® and has an active subscription, additional data may be collected through the OnStar system. This includes information about the vehicle's operation; collisions involving the vehicle; the use of the vehicle and its features; and, in certain situations, the location and approximate GPS speed of the vehicle. Refer to the OnStar Terms and Conditions and Privacy Statement on the OnStar website.

See *OnStar Additional Information* ⇨ *313*.

Infotainment System

If the vehicle is equipped with a navigation system as part of the infotainment system, use of the system may result in the storage of destinations, addresses, telephone numbers, and other trip information. See the infotainment manual for information on stored data and for deletion instructions.

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OnStar Overview



Voice Command Button

Blue OnStar Button

Red Emergency Button

This vehicle may be equipped with a comprehensive, in-vehicle system that can connect to an OnStar Advisor for Emergency, Security, Navigation, Connections, and Diagnostics Services. OnStar services may require a paid subscription and data plan. OnStar requires the vehicle battery and electrical system, cellular service, and GPS satellite signals to be available and operating. OnStar acts as a link to existing emergency service providers. OnStar may collect information about you and your vehicle, including location information. See OnStar User Terms, Privacy Statement, and Software Terms for more details including system limitations at www.onstar.com (U.S.) or www.onstar.ca (Canada).

The OnStar system status light is next to the OnStar buttons. If the status light is:

- Solid Green: System is ready.
- Flashing Green: On a call.
- Red: Indicates a problem.
- Off: System is active. Press twice to speak with an OnStar Advisor.

Press or call 1-888-4ONSTAR (1-888-466-7827) to speak to an Advisor.

Press to:

- Make a call, end a call, or answer an incoming call.
- Give OnStar Hands-Free Calling voice commands.
- Give OnStar Turn-by-Turn Navigation voice commands.

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- Obtain and customize the Wi-Fi® hotspot name or SSID and password, if equipped.

Press On to connect to an Advisor to:

- Verify account information or update contact information.
- Get driving directions.
- Receive a Diagnostic check of the vehicle's key operating systems.
- Receive Roadside Assistance.
- Manage Wi-Fi Settings, if equipped.

Press SOS to get a priority connection to an OnStar Advisor available 24/7 to:

- Get help for an emergency.
- Be a Good Samaritan or respond to an AMBER Alert.
- Get assistance in severe weather or other crisis situations and find evacuation routes.

OnStar Services

Emergency

Emergency Services require an active, OnStar service plan (excludes Basic Plan). With Automatic Crash Response, built-in sensors can automatically alert a specially trained OnStar Advisor who is immediately connected in to the vehicle to help.

Press SOS for a priority connection to an OnStar Advisor who can contact emergency service providers, direct them to your exact location, and relay important information.

With OnStar Crisis Assist, specially trained Advisors are available 24 hours a day, 7 days a week, to provide a central point of contact, assistance, and information during a crisis.

With Roadside Assistance, Advisors can locate a nearby service provider to help with a flat tire, a battery jump, or an empty gas tank.

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Security

If equipped, OnStar provides these services:

- With Stolen Vehicle Assistance, OnStar Advisors can use GPS to pinpoint the vehicle and help authorities quickly recover it.
- With Remote Ignition Block™, if equipped, OnStar can block the engine from being restarted.
- With Stolen Vehicle Slowdown®, if equipped, OnStar can work with law enforcement to gradually slow the vehicle down.

Theft Alarm Notification

If equipped, if the doors are locked and the vehicle alarm sounds, a notification by text, e-mail, or phone call will be sent. If the vehicle is stolen, an OnStar Advisor can work with authorities to recover the vehicle.

Navigation

OnStar navigation requires a specific OnStar service plan.

Press to receive Turn-by-Turn directions or have them sent to the vehicle's navigation screen, if equipped.

Turn-by-Turn Navigation

1. Press to connect to an Advisor.
2. Request directions to be downloaded to the vehicle.
3. Follow the voice-guided commands.

Using Voice Commands During a Planned Route

Cancel Route

1. Press . System responds: "OnStar ready," then a tone.
2. Say "Cancel route." System responds: "Do you want to cancel directions?"
3. Say "Yes." System responds: "OK, request completed, thank you, goodbye."

Route Preview

1. Press . System responds: "OnStar ready," then a tone.
2. Say "Route preview." System responds with the next three maneuvers.

Repeat

1. Press . System responds: "OnStar ready," then a tone.
2. Say "Repeat." System responds with the last direction given, then responds with "OnStar ready," then a tone.

Get My Destination

1. Press . System responds: "OnStar ready," then a tone.
2. Say "Get my destination." System responds with the address and distance to the destination, then responds with "OnStar ready," then a tone.

Send Destination to Vehicle

Subscribers can have directions sent to the vehicle's navigation screen, if equipped.

Press , then ask the Advisor to download directions to the vehicle's navigation system, if equipped. After the call ends, the navigation screen will provide prompts to begin driving directions. Routes that are sent to the navigation screen can only be canceled through the navigation system.

See www.onstar.com (U.S.) or www.onstar.ca (Canada).

Connections

The following OnStar services help with staying connected.

For coverage maps, see www.onstar.com (U.S.) or www.onstar.ca (Canada).

Ensuring Security

- Change the default passwords for the Wi-Fi hotspot and RemoteLink mobile application. Make these passwords different

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from each other and use a combination of letters, numbers, and symbols to increase the security.

- Change the default name of the SSID (Service Set Identifier). This is your network's name that is visible to other wireless devices. Choose a unique name and avoid family names or vehicle descriptions.

OnStar Wi-Fi® Hotspot (If Equipped)

The vehicle may have a built-in Wi-Fi hotspot that provides access to the Internet and web content at 4G LTE speed. Up to seven mobile devices can be connected. A data plan is required. Use the in-vehicle controls only when it is safe to do so.

1. To retrieve Wi-Fi hotspot information, press , wait for the prompt, then say "Wi-Fi settings." On some vehicles, touch Wi-Fi Settings on the screen.
2. The Wi-Fi settings will display the Wi-Fi hotspot name (SSID), password, and on some vehicles, the connection type (no Internet connection, 3G, 4G, 4G LTE), and signal quality (poor, good, excellent).
3. To change the SSID or password, press or call 1-888-4ONSTAR to connect with an Advisor.

After initial set-up, your vehicle's Wi-Fi hotspot will connect automatically to your mobile devices. Manage data usage by turning Wi-Fi on or off on your mobile device, using the RemoteLink mobile app, or by contacting an OnStar Advisor.

OnStar RemoteLink® Mobile App (If Equipped)

Download the OnStar RemoteLink mobile app to select Apple® iOS, Android™, BlackBerry®, or Windows® mobile devices. OnStar Subscribers can access the following services from a mobile device:

- Remotely start/stop the vehicle, if factory-equipped.
- Lock/unlock doors, if equipped with automatic locks.
- Activate the horn and lamps.
- Check the vehicle's fuel level, oil life, or tire pressure, if factory-equipped with the Tire Pressure Monitor System.
- Send directions to the vehicle.
- Locate the vehicle on a map (U.S. market only).
- Turn the vehicle's Wi-Fi hotspot on/off, manage settings, and monitor data consumption, if equipped.

For OnStar RemoteLink information and compatibility, see www.onstar.com (U.S.) or www.onstar.ca (Canada).

Remote Services

Contact an OnStar Advisor to unlock the doors or sound the horn and flash the lamps.

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OnStar AtYourService

OnStar Advisors can provide offers from restaurants and retailers on your route, help locate hotels, or book a room. These services vary by market.

OnStar Hands-Free Calling

Make and receive calls with the built-in wireless calling service, which requires available minutes.

Make a Call

1. Press . System responds: “OnStar ready.”
2. Say “Call.” System responds: “Call. Please say the name or number to call.”
3. Say the entire number without pausing, including a “1” and the area code. System responds: “OK, calling.”

Calling 911 Emergency

1. Press . System responds: “OnStar ready.”
2. Say “Call.” System responds: “Call. Please say the name or number to call.”
3. Say “911” without pausing. System responds: “911.”
4. Say “Call.” System responds: “OK, dialing 911.”

Retrieve My Number

1. Press . System responds: “OnStar ready.”
2. Say “My number.” System responds: “Your OnStar Hands-Free Calling number is,” then says the number.

End a Call

Press . System responds: “Call ended.”

Verify Minutes and Expiration

Press and say “Minutes” then “Verify” to check how many minutes remain and their expiration date.

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Diagnostics

Advanced Diagnostics provides a status of the vehicle’s key systems with a monthly e-mail, or by pressing . If equipped, Diagnostic Alerts can be received in real-time via e-mail or text. The Proactive Alerts feature (if available) can help predict and alert of potential upcoming maintenance issues with select components on the vehicle, before they become a problem.

OnStar can also monitor and report tire pressure, if the vehicle is equipped with a Tire Pressure Monitoring System.

OnStar Additional Information

In-Vehicle Audio Messages

Audio messages may play important information at the following times:

- Prior to vehicle purchase. Press to set up an account.
- With the OnStar Basic Plan, every 60 days.
- After change in ownership and at 90 days.

Transferring Service

Press to request account transfer eligibility information. The Advisor can cancel or change account information.

Selling/Transferring the Vehicle

Call 1-888-4ONSTAR (1-888-466-7827) immediately to terminate your OnStar services if the vehicle is disposed of, sold, transferred, or if the lease ends.

Reactivation for Subsequent Owners

Press and follow the prompts to speak to an Advisor as soon as possible. The Advisor will update vehicle records and explain OnStar service options.

How OnStar Service Works

Automatic Crash Response, Emergency Services, Crisis Assist, Stolen Vehicle Assistance, Advanced Vehicle Diagnostics, Remote Services, Roadside Assistance, Turn-by-Turn Navigation, and Hands-Free Calling are available on most vehicles. Not all OnStar services are available everywhere or on all vehicles. For more information, a full description of OnStar services, system limitations, and OnStar User Terms, Privacy Statement, and Software Terms:

- Call 1-888-4ONSTAR (1-888-466-7827).
- See www.onstar.com (U.S.).
- See www.onstar.ca (Canada).
- Call TTY 1-877-248-2080.
- Press to speak with an Advisor.

OnStar services cannot work unless the vehicle is in a place where OnStar has an agreement with a wireless service provider for service in that area. The wireless service provider must also have coverage, network capacity, reception, and technology compatible with OnStar services. Service involving location information about the vehicle cannot work unless GPS signals are available, unobstructed, and compatible with the OnStar hardware. OnStar services may not work if the OnStar equipment is not properly installed or it has not been properly maintained. If equipment or software is added, connected, or modified, OnStar services may not work. Other problems beyond the control of OnStar — such as hills, tall buildings, tunnels, weather, electrical system design and architecture of the vehicle, damage

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to the vehicle in a crash, or wireless phone network congestion or jamming — may prevent service.

See *Radio Frequency Statement* ⇨ *304*.

Services for People with Disabilities

Advisors provide services to help Subscribers with physical disabilities and medical conditions.

Press On to help:

- Locate a gas station with an attendant to pump gas.
- Find a hotel, restaurant, etc., that meets accessibility needs.
- Provide directions to the closest hospital or pharmacy in urgent situations.

TTY Users

OnStar has the ability to communicate to deaf, hard-of-hearing, or speech-impaired customers while in the vehicle. The available dealer-installed TTY system can provide in-vehicle access to all OnStar services, except Virtual Advisor and OnStar Turn-by-Turn Navigation.

OnStar Personal Identification Number (PIN)

A PIN is needed to access some OnStar services. The PIN will need to be changed the first time when speaking with an Advisor. To change the OnStar PIN, contact an OnStar Advisor by pressing On or calling 1-888-4ONSTAR.

Warranty

OnStar equipment may be warranted as part of the vehicle warranty.

Languages

The vehicle can be programmed to respond in multiple languages. Press On and ask for an Advisor. Advisors are available in English, Spanish, and French. Available languages may vary by country.

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Potential Issues

OnStar cannot perform Remote Door Unlock or Stolen Vehicle Assistance after the vehicle has been off continuously for 10 days without an ignition cycle. If the vehicle has not been started for five days, OnStar can contact Roadside Assistance or a locksmith to help gain access to the vehicle.

Global Positioning System (GPS)

- Obstruction of the GPS can occur in a large city with tall buildings; in parking garages; around airports; in tunnels and underpasses; or in an area with very dense trees. If GPS signals are not available, the OnStar system should still operate to call OnStar. However, OnStar could have difficulty identifying the exact location.
- In emergency situations, OnStar can use the last stored GPS location to send to emergency responders.

A temporary loss of GPS can cause loss of the ability to send a Turn-by-Turn Navigation route. The Advisor may give a verbal route or may ask for a call back after the vehicle is driven into an open area.

Cellular and GPS Antennas

Cellular reception is required for OnStar to send remote signals to the vehicle. Do not place items over or near the antenna to prevent blocking cellular and GPS signal reception.

Unable to Connect to OnStar Message

If there is limited cellular coverage or the cellular network has reached maximum capacity, this message may come on. Press to try the call again or try again after driving a few miles into another cellular area.

Vehicle and Power Issues

OnStar services require a vehicle electrical system, wireless service, and GPS satellite technologies to be available and operating for features to function properly. These systems may not operate if the battery is discharged or disconnected.

Add-on Electrical Equipment

The OnStar system is integrated into the electrical architecture of the vehicle. Do not add any electrical equipment. See *Add-On Electrical Equipment* ⇨ *200*. Added electrical equipment may interfere with the operation of the OnStar system and cause it to not operate.

Vehicle Software Updates

OnStar or GM may remotely deliver software updates or changes to the vehicle without further notice or consent. These updates or changes may enhance or maintain safety, security, or the operation of the vehicle or the vehicle systems. Software updates or changes may affect or erase data or settings that are stored in the vehicle, such as OnStar Hands-Free Calling name tags, saved navigation destinations, or pre-set radio stations. Neither OnStar nor GM is responsible for any affected or erased data or settings. These updates or changes may also collect personal information. Such collection is described in the OnStar privacy statement or separately disclosed at the time of installation. These updates or changes may also cause a system to automatically communicate with GM servers to collect information about vehicle system status, identify whether updates or changes are available, or deliver updates or changes. An active OnStar agreement constitutes consent to these software updates or changes and agreement that either OnStar or GM may remotely deliver them to the vehicle.

Privacy

The complete OnStar Privacy Statement may be found at www.onstar.com (U.S.), or www.onstar.ca (Canada). We recommend that you review it. If you have any questions, call 1-888-4ONSTAR (1-888-466-7827) or press to speak with an Advisor. Users of wireless communications are cautioned that

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the privacy of any information sent via wireless cellular communications cannot be assured. Third parties may unlawfully intercept or access transmissions and private communications without consent.

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